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ORIGINAL LECTURES.

GUNSHOT WOUND OF THE BODY.

A Clinical Lecture, Delivered at the Pennsylvania Hospital.

BY JOHN H. PACKARD, M.D.,
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GENTLEMEN: On the evening of the 23d inst., there was brought into the hospital a woman who had just been shot by her husband. At my lecture the next day, as her condition was not such as to warrant her being brought before you, I gave you the details of her case.

She had received two shots from a revolver. One bullet had struck her on the right side of the thorax, two or three inches below the axilla, and had lodged beneath the skin, whence it was easily extracted by a slight incision by the resident surgeon. The other wound was in the left side, between the ninth and tenth ribs, a little in front of a vertical line passing through the axilla. A probe could be passed forward along the thoracic wall, in the track of the bullet, for about three inches; further than this the missile could not be followed.

I noted also a very small spot of ecchymosis on the surface of the right breast, an inch or more above and to the inner side of the nipple; but this did not then seem to have anything to do with either of the other wounds.

As nearly as could be ascertained, when the first shot was fired, the woman was facing her husband, and had her baby in her arms; the bullet, of the size known as thirty-two, struck her corset-bone, which dented it and destroyed its momentum, so that it merely penetrated the skin and lodged. On receiving this shot, she seems to have faced about away from the man, when he advanced toward her and fired again just as she stooped over to lay the child down. Thus, the first bullet struck her from in front, the second from her left side, ranging slightly upward and forward, as well as toward the median line of her body.

This woman's physique was singularly fine, and on admission there was very little shock. Her chief complaint was of pain and tenderness in the epigastrium, and in the right iliac region; she had no pain in the chest, although her breathing was somewhat embarrassed. At first sight it seemed to me probable that the second bullet might have entered the abdominal cavity and lodged there; and that the question arose whether it would not be best to follow it—to lay open the abdomen with the view of trying to repair any damage inflicted by the ball in its course, and of removing the ball if it were lodged where its presence would be likely to do further harm.

Such a procedure, which, a few years ago would have been regarded as utterly foolhardy, is among the recognized resources of modern surgery, and not a few instances are on record in which lives have been thus saved. Yet its gravity demands that it should be adopted only after careful weighing of the chances. I, therefore, sought the counsel of my colleagues, and abstained from disturbing the woman for examination until they should be present. Dr. Morton was the only one who could be reached, and he, very kindly, came at once.

On his arrival, we proceeded to examine the patient. There were no symptoms except such as have been already described; no tympanitic distention of the abdomen, and none of the general signs of internal hemorrhage. But when she sat up in bed, an examination of the chest showed dulness over the whole of its right side on percussion, while the respiratory sounds could scarcely be heard. This condition, coming on suddenly, could, under the circumstances, have but one meaning—there had been rapid hemorrhage into the pleural cavity. As there was no cough or expectoration of frothy blood, it was not probable that the lung had been wounded. We had no clew to the source of the bleeding, and could do nothing directly to check or control it. So grave and threatening a complication was of itself enough to forbid the idea of laparotomy.

We had here the statement that there were two bullets, and the examination of the woman's clothes bore it out; they showed on the right side the holes made by the first, coming from in front and from some distance; on the left, the holes at the side, with the stuff charred by the burning powder, showing that the shot was fired at very close range. The first bullet had been extracted, and had clearly not entered the pleural cavity. The second had evidently entered the abdominal cavity. What was the source of the hemorrhage into the pleura, and by which bullet was it caused? I was inclined to think, but wrongly, as it was afterward proved, that the first bullet had struck a rib, and detached from it a splinter, by which an intercostal artery had been wounded. It did not then occur to me that the second bullet could have gone into the thorax and caused the bleeding.

The woman was kept at perfect rest, under the influence of opium, with a large flaxseed poultice over the whole abdomen. Small quantities of liquid diet were ordered, and to allay her thirst she was given bits of ice to suck. The next day all her symptoms were aggravated, and there was decided evidence of failure of strength. Her countenance became pale, pinched, and anxious; her lips blue; her skin cool and bedewed with sweat; her pulse weak and rapid, and her breathing shallower and more oppressed. It seemed probable that there had been a continuous flow of blood into the pleural cavity; but she was too ill to allow of an examination of the chest merely in order to satisfy curiosity on this point. No distinct evidence of peritonitis was present. Death ensued about thirty-six hours after admission to the hospital.

At the autopsy, a most remarkable state of things was

discovered. The first bullet had simply, as supposed, penetrated the skin and lodged, doing no damage of any consequence. The second one had pursued a course as follows, which I will ask you to note carefully: Entering between the ninth and tenth left ribs, about an inch posterior to their junction with their cartilages, it ran along the wall, penetrated the diaphragm, and thus entered the abdominal cavity in a direction upward and inward; wounded the stomach near its lesser curvature and cardiac end; struck the liver two inches from its anterior border and one inch to the left of the suspensory ligament, across which it passed, ploughing the substance of the gland to the depth of half an inch and for a distance of three inches; pierced the diaphragm again, and cut the right mammary artery across; passing out at the fifth interspace, it then entered the mammary gland, reached the skin and made the small bruise referred to, dipped back again, and finally lodged under the skin about an inch from the point where the first bullet was found. The right pleural cavity contained about a pint and a half of fluid blood. In the peritoneal cavity there was no blood, but some undigested food, and the serous membrane was in a state of pronounced inflammation.

No disease of any organ was detected.

Now if the position of this woman at the time she received this shot be carefully considered—turning away and stooping over—it will be obvious that the course followed by the bullet, apparently so tortuous when described, was in fact almost a straight line. Only when the skin was reached and bruised was there a deflection, the tough skin offering more resistance than the areolar tissue and fat overlying the breast.

Very probably she was shrieking, and thus the diaphragm was strongly arched upward in expiration; this would not only slope the upper surface of the liver, but would bring the thinner part of the septum opposite the point at which the bullet left the gland.

I have great doubts whether, even if we had had a more accurate idea of this patient's position at the time of the shooting, we should have guessed at the course of the ball; for in the movement she was making, turning round and stooping over, there was a very complex change in the relations of the viscera to one another, as well as to the abdominal walls. Easy as this is to understand now, it must be remembered that we have the course of the ball as traced at the post-mortem examination to make it clear; it would not otherwise have suggested itself. And an accurate knowledge of the condition of things would have been of no avail in the matter of treatment.

The bullet had done all the damage it was going to do, and had lodged in a place where it was quite innocuous. Its removal was a matter of very small moment. A better illustration could hardly be afforded of the fallacy of the popular idea, that in cases of gunshot wound the finding and extraction of the ball must be at once effected, as of prime importance to the welfare of the patient.

Could anything have been gained in this case by surgical interference? Had the source of the hemorrhage into the pleura been known, there is no doubt the vessel could have been secured, but only by a procedure in itself difficult and grave. For mere ligation would not have answered; both ends of the divided artery must have been found and tied, or bleeding would have continued from the distal orifice, by reason of the free anastomosis existing with the epigastric. But, as before remarked, there was nothing to indicate at what portion of the thoracic wall a vessel had been wounded.

Had I opened the abdomen, I should have failed to find the bullet. The wound in the stomach could have been closed without difficulty, but, except by a very extensive division of the abdominal wall the thorough cleansing of the peritoneum could not have been effected, and inflammation of the serous membrane would otherwise have been inevitable. And although there had been no hemorrhage from the laceration of the liver, this lesion would scarcely have been amenable to any treatment.

In connection with this case, let me mention another which occurred in my ward last summer. A man, aged twenty-eight, was brought in one night, having been shot with a revolver an hour or two previously. The ball, fired at close range, had entered the left side of the abdomen, low down, and lodged. There was but little shock, and reaction soon ensued. The man was placed under the influence of opium, and ice-water was applied locally. He was stupid, but not unconscious—and was easily roused, so as to identify the man who had shot him. For three days his temperature remained at about 101.5°; then it went up to 103.5°. On the fourth day it was 104°, falling toward evening to 102.5°; then death ensued. At the autopsy it was found that the bullet had wounded the colon, and the ileum at two points, making five wounds; it had then penetrated the psoas magnus muscle, and lay between the transverse processes of the second and third lumbar vertebræ. Fecal matter had escaped into the peritoneal cavity and caused acute suppurative peritonitis.

It has always been a matter of regret to me that I did not, in this case, perform laparotomy, cleanse the serous membrane carefully, stitch up the wounds in the intestines, and thus give the patient the only chance for his life. One reason for this was that I did not see the patient until twelve hours or more had elapsed from the time of the shooting. Some difficulty was experienced in finding the ball, even at the post-mortem; but as it had lodged where it would have been comparatively harmless, its removal would not have been essential to success.

In still another case, recently admitted, a sailor had been shot in the abdomen about an hour previously, and was in a state of profound collapse, with a pale, cold surface, pinched face, and absence of pulse at the wrist. Here laparotomy was hopeless, and not to be thought of. The bullet was found to have wounded the spleen, causing fatal hemorrhage; it had then passed through the diaphragm, fractured a rib, and lodged under the skin.

Let me, in conclusion, offer some general remarks as to the operation of opening the abdomen in cases of gunshot wounds of this region.

It must be borne in mind that this procedure is itself of great gravity, and the patient's general condition must be fairly good to enable him to withstand the additional shock involved. The surgeon's prime object must be to do all that is possible to save life; but he must not overlook the fact that his course may be severely criticised, especially in cases which give rise to

medico-legal inquiry. Thus, as in the well-known Fisk case in New York, a few years since, it may be claimed that the treatment resorted to was the cause of death. Hence it is always advisable for the surgeon to have his own opinion fortified by the support of one or more consultants, especially in case of any departure from standard procedures, or from the rules laid down by recognized authorities.

There must always be reason to suppose that some definite object can be gained by opening the abdomen; such as the closure of wounds of the intestine, or the arrest of hemorrhage, or the cleansing of the peritoneum.

It must be a question to be decided in each case, whether the existing wound should be enlarged, or a new incision made in the linea alba. Generally I believe the latter to be best, as giving the freest and safest access to all wounded parts, and enabling the surgeon to assure himself that what is called by some the "peritoneal toilet" is thoroughly attended to. The median incision involves scarcely any bleeding, and what there is can be readily checked. If the incision is made in any other region, some vessels of importance are almost sure to be met with, and should be carefully secured as they spring.

Antiseptic precautions are eminently proper in these cases, although not indispensable.

Whatever is done must be done thoroughly. It would be absolutely useless to sew up all but one of the wounds of the intestine, or to tie all but one of the divided vessels, or to cleanse the peritoneum everywhere except in one recess.

I do not go into any detail as to the precise forms of suture to be used, the material to be employed for this purpose or for the tying of arteries, or the methods of dressing to be preferred. All these are matters about which different surgeons hold different opinions, and in which it is to be hoped that improvements will be made in the near future. The whole subject is one worthy of your careful study, and the more so that when you are called upon to act in such cases, there is no time for reading up, but your course must be promptly decided on and as promptly carried out.

ORIGINAL ARTICLES.

A CASE OF PENETRATING STAB WOUND OF THE ABDOMEN, WITH PROTRUSION AND WOUNDS OF THE INTESTINE.

BY HENRY W. BOONE, M.D.,
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A. S., native of China, painter, aged twenty-one, single, admitted to the hospital December 27, at 11.15 P.M., about three hours after the receipt of his injury. He was stabbed in the abdomen with a large, sharp knife. The wound was two and three-quarters inches below the umbilicus, and one and a half inches to the left of the median line. A piece of small intestine fourteen inches long protruded from the wound. There were four wounds transverse to the long axis of the intestine; the mucous membrane was everted and protruding. The largest wound was one and a quarter inches long, the smallest half an inch. There was also a large ragged, contused, bloodshot surface on the gut near the mesenteric attachment. The mesenteric vessels were cut and bled freely in a good many places. This wound was one and three-quarters inches by one and a half inches, and was on both sides of the intestine near the mesenteric attachment. The protruded gut blocked up the wound of the abdominal wall, but it was not constricted enough to stop the bleeding from the wounded mesenteric vessels.

After consultation with my colleague, Dr. R. A. Jamieson, I decided to sew up the two clean cuts furthest from the large contused wound by the Czerny-Lembert suture. In order to save time, Dr. Jamieson sewed up one cut while I sewed up the other. We then passed strong double catgut ligatures through in two places, and tied the mesentery *en masse*, below the ragged wound which involved the vessels of the mesentery, then secured both sides of the gut and excised a piece three and a quarter inches in length, including the ragged part and the larger transverse cuts near it. The patient was much exhausted from the loss of blood which had occurred before he was brought to the hospital. As it was late at night and our supply of fine catgut was exhausted, we decided to secure the two ends of the gut in the wound and make an artificial anus. After the wound in the abdominal wall had been enlarged slightly by an upward incision, the two ends of the intestine were fastened to the circumference of the wound by deep sutures of strong braided silk which had been carbolized. These sutures went through the entire thickness of the abdominal wall including the peritoneum, and also through the serous and muscular coats of the intestine. The hands of the surgeons and assistants were thoroughly washed and carbolized, all instruments were dipped in a five per cent. carbolic solution, the sponges used were already prepared and lying in a five per cent. carbolic solution in a glass jar. The wound was irrigated with a warm two per cent. solution of carbolic acid and every precaution taken to keep it aseptic. The temperature of the room was kept up to 70°, and the patient had from time to time small doses of hot brandy and water. The solution of bichloride of mercury was not used, because the operator has been slightly poisoned by it on several occasions. After cleaning up the patient carefully, a large carbolized sponge was put over the wound and a lot of fresh tarry oakum put on.

Just as the wound was dressed, and before the bandage was put on, the patient vomited a large meal smelling strongly of liquor, which he admitted having taken. This food had not had time to pass from the stomach to the intestines. The intestines appeared to be empty. On raising the dressing the wound was found to be clean and not disturbed by the act of vomiting. Applied a binder, gave a hypodermatic of a quarter grain of morphia, and put him to bed with hot bottles, as he felt cold. The operation began at 11.45; it was completed and the man was put to bed at 2 P.M. At 2.45 P.M., he was sleeping soundly.

Dec. 28. 7.30 A.M., patient awake, is bright and cheerful, no pain, desires to eat. To have weak tea

to wet his lips with, nothing else. Morphia, one-quarter grain every four or five hours. 5 P.M., passed one pint of clear urine.

29th. Passed wind and some liquid by the anus. 9.30 A.M., removed the dressing, wound clean, healthy; powdered iodoform, oakum, and binder. 11.30 A.M., fecal matter flowed from wound and wet the dressings. 2.30 P.M., changed dressing. Soft yellowish-brown stool, three ounces, in dressing.

30th. Patient is a little tender to pressure over abdomen, but feels no pain.

31st. To take one ounce of beef tea every half hour. The native nurses could not be depended upon, and he would have taken food of his own choosing if I had not allowed him the beef tea. Abdomen slightly tender to touch, two inches larger than it was yesterday, tongue clean, moist, pulse soft. The highest temperature was 99⅘° on the afternoon of the third day, highest respiration 22. He has a stool in dressing morning and evening when it is changed. The weather is very cold and raw. 9 P.M., temperature 101⅘°, cough and slight red streak in sputa, mild attack of pneumonia at bases of both lungs posteriorly; moved the patient, bedstead all, into a small room where we could keep him warmer. His skin is of a rather bad yellow color.

Jan. 1. Slept well, free from pain, slight cough, rusty and mucopurulent sputa, both in bowl; says he had bronchitis for two or three weeks before admission.

3d. An enormous round worm was found protruding from wound; passed nineteen worms at different times. Skin raw on left side of abdomen; zinc ointment.

4th. Bad night, looking very poorly; wound sunken and slightly ulcerated around the edges. Removed the stitches, as they were cutting into the skin. Although his pneumonia is clearing up, he is very feeble and worn out.

5th. Much better, he refused brandy and milk, complains that it makes him worse. Takes beef tea and rice gruel. He has no pain at all in abdomen.

8th. To have soup and fish. The patient has recovered from his pneumonia.

22d. Gave an enema of soap and water which returned unchanged.

27th. One month after the receipt of the injury, sat up in bed supported by a bed rest.

Feb. 9. The wound is healthy, has contracted and the patient is in excellent health. I tried to insert a rubber tube into both the upper and lower ends of the divided bowel. This plan was suggested by W. Mitchell Banks, surgeon to the Liverpool Royal Infirmary (*Med. Times and Gazette*, May 9, 1885, p. 603: Use of rubber tube in place of enterotome, to remove spur of intestine in artificial anus.) Found lower opening too small to receive the tube. Dilated lower opening with sponge tent, and inserted a rubber tube three-eighths of an inch in diameter, three inches into the upper, three and one-half inches into the lower end of the intestine and made it fast by a silk string. This thick, strong, elastic tube at once partly straightened itself, depressing the spur between the two ends of the bowel and becoming buried one-quarter of an inch below the surface of the wound.

11th. Some fecal matter passed by the anus.

12th. Removed small tube, and inserted rubber tube five-eighths inch in diameter, seven inches long.

14th. Enema with three ounces of castor oil, one good stool by the anus.

16th. One stool.

17th and *18th.* Slight diarrhœa. A very little fecal matter by the artificial opening. Has taken his food well all the time. Pulse and temperature good.

19th. Large stool by artificial anus.

23d. Doing well. An enema with two ounces of castor oil to insure stool by the rectum.

27th. He continues to pass his feces by the anus, little or none passing through the wound. He never has a stool by the anus unless the large enema with castor oil is given.

March 4. Removed the tube from the bowel to let patient try to pass feces naturally.

11th. Wound much better than it was one month ago when the rubber tube was first inserted, and it is more sunken. The tube was removed six days ago, he had one stool by the anus next day, since that time everything passes by the wound. As the enema is creating irritation and a slimy discharge, it was discontinued.

16th. On inserting the finger into the upper end of the bowel it goes in the full length into a large free intestinal cavity, and meets with no opposition. On inserting the finger into the lower end of the bowel it goes easily for two and a half inches, then enters a constriction which yields to pressure. The finger goes in as far as I can reach, but it is grasped with a peculiar motion, like a mouth sucking. It seems that the intestine is contracted at this point. A foreign body inserted here causes peristaltic action, but unless a large tube is passed through this place the feces all flow out through the artificial anus instead of going through the lower bowel. Attempts were then made to plug the artificial opening by a wad of cotton secured by adhesive plaster, but caused pain which the patient would not stand. He removed the plug.

17th. Painted all around artificial anus with collodion, to try to get the wound to close.

27th. Patient is well and gaining flesh. Still passes everything by the artificial opening. The wound contracted to a small hole which admits the forefinger. The patient and his friends desire a decisive answer as to his prospects. He was told that, as he was unwilling to submit to the very moderate pain caused by wearing a plug to close the artificial opening, the feces passed out through that orifice as the place where there was the least resistance. He was given the alternatives, to submit to the use of the plug, to undergo a resection of the divided ends of the bowel, or to return to his home. The dangers of the operation for a resection of the bowel were explained to him, and also the complete restoration which would ensue from a successful issue of the operation. After some days the patient and his friends determined that he should return home. They said that should he decide to submit to any further treatment he would return to the hospital.

30th. Discharged

Remarks.—When the patient was admitted to the hospital he was greatly exhausted from loss of blood and chilled by exposure in his wet clothing to the freezing weather out of doors. My colleague and I came to the conclusion that we must excise a portion of the intestine as it was severed from its mesenteric attachments, and so greatly injured that it must necessarily become gangrenous if returned to the abdominal cavity. The man's condition was such that we deemed it necessary to complete the operation and get him to bed as soon as possible for fear of mortal collapse. We had no suitable needles or catgut at hand to join the two ends of the intestine with. Our assistants were Chinese, willing, but not very efficient, and we did not have all those appliances which a great hospital at home can place at the disposal of its surgeons.

On gently drawing down the ends of the intestine which protruded, it was found quite free from injury. I did not deem it necessary to perform a laparotomy and search for other visceral injuries. The wounded intestine and the extravasation of blood were outside of the abdominal cavity. It was specially an operation of emergency to stop bleeding in a patient with little vital power left; this prevented my choosing any plan of treatment which would have prolonged his stay upon the operating table.

With regard to the attempts at a final closure of the wound, there is no doubt in my mind that a persistent attempt to close the artificial anus by a well-fitting cotton pad secured by adhesive plaster would have been crowned with success. The peristaltic action of the bowel would have overcome the moderate resistance of the lower end of the intestine. The daily passage of fecal matter would have gradually accustomed the intestine to the resumption of its proper duties. Unfortunately, it is impossible to get a native nurse with the firmness needed to control an ignorant and wilful patient. No other nurses could be obtained, and for the want of power to carry out this simple and easily managed plan of treatment, I had to allow the patient to go home with an artificial anus.

The valuable assistance and advice of my friend and colleague, Dr. Jamieson, contributed very materially to the happy issue of the case.

PERNICIOUS ANÆMIA.

EXTREME REDUCTION OF THE NUMBER, WITH ALTERATIONS OF THE SIZE AND SHAPE, OF THE RED CORPUSCLES; RECOVERY.

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ON October 5, 1885, at the request of Dr. Morris J. Lewis, I examined the blood of a patient under his charge in the female medical ward of the Episcopal Hospital, and sent him the following report:

"Number of red corpuscles per cubic mm. 560,000. Percentage of corpuscles, as compared with the standard of health (5,000,000)—that is, the 'hæmic unit'—11.2 per cent. Hæmoglobin, 11 per cent. No white seen in the specimen examined. The corpuscles vary greatly in size and shape, many of them being much larger than normal. An undoubted case of pernicious anæmia."

On October 27 I examined the blood again, with the following result: Number of red corpuscles per c. mm., 840,000; white not increased; hæmic unit, 17; hæmoglobin, 12 per cent. The hæmoglobin had not increased in proportion to the increase of the corpuscles since the last examination.

On January 26, 1886, the patient was kindly sent to me by Dr. Henry M. Fisher, to whose care she had been transferred by Dr. Lewis, in the regular rotation of hospital service, shortly after my second examination. In a note which she brought with her, Dr. Fisher stated that he had quite recently examined the blood and found 3,431,250 red corpuscles per cubic millimetre.

The result of my examination was as follows: Number of red corpuscles, 3,670,000; hæmic unit, 73.5; color (hæmoglobin), 38 per cent; very few corpuscles above normal size; most of them smaller than normal; white very scanty: a few microcytes. The following notes were written at the time of this examination: "This case, which, at the first and second examinations, presented every symptom of pernicious anæmia, now resembles more one of chlorosis. Had I seen it to-day for the first time I would have unhesitatingly pronounced it a case of chlorosis, being led to such a diagnosis by the great diminution of the percentage of coloring matter as compared with that of the corpuscles. Taking 5,000,000 corpuscles as the healthy average per c. mm.—and this is high for a woman—the coloring matter in this case would represent 1,900,000 healthy corpuscles. The diminished percentage of hæmoglobin is now partly due to the diminished size of the corpuscles, as its former high percentage was due to their increased size. Is there a transition between idiopathic (pernicious) anæmia and chlorosis, and is this transition manifested in both directions? that is to say, is chlorosis sometimes the first stage of pernicious anæmia; and *vice versa*, Does a patient recovering from pernicious anæmia pass through a stage of chlorosis on his way toward recovery?"

Before attempting to discuss these points, I will append the clinical history of the case from notes furnished me by Dr. Fisher.

Anna D., æt. thirty-five years, English, domestic, married, sterile; was admitted September 18, 1885. The catamenia began at twelve, and were perfectly regular until June, 1885, when they ceased, and have not since returned. Her father died at the age of eighty-one; her mother of phthisis at fifty-five; one brother died of pneumonia at thirty; two sisters are still living. She was married at nineteen, and has never been pregnant. Has been in the country eleven years, and every summer has suffered from general debility and palpitation of the heart. Dates her present illness from April, 1884, and attributes it to the excitement and overexertion attendant upon a trip with a sick friend to Harrisburg. Her first symptoms were gradual loss of strength, with dyspnœa and palpitation on going up stairs; and sick stomach, with vomiting of watery fluid on rising in the morning. At present—time of admission—she complains of nothing but extreme weakness. Her hair has become quite gray during the last year, and her skin is of an icteric hue; while the conjunctiva is pearly-white, and the nails are whiter than the surrounding integument. Her bowels are moved twice a day, and the stools are natural in consistency and color. The tongue is pale red, without fur. The liver and spleen are of normal size, and no enlarged lymphatic glands can be found. There is no cough. The apex beat of heart is diffuse and slightly tremulous. It is felt in the sixth interspace, but is strongest in the fifth interspace, an inch and a half inside of the nipple. There

is a systolic murmur over the anterior surface, loudest over the pulmonary valves. There is a venous hum in the neck.

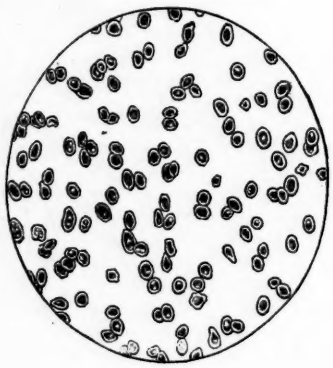
On admission, there was slight general œdema. The u ine was free from casts, but contained pus corpuscles—three or four in every field—and a slight amount of albumen. The general intelligence is very good. Sleep is very poor.

The eyes were examined by Dr. B. Alexander Randall, one of the ophthalmic surgeons to the hospital, who made the following report: "Vessels pale; veins tortuous, particularly to the temporal side of left eye. No hemorrhagic spots, either new or old."

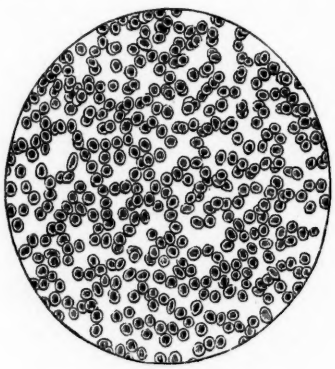
The treatment adopted was a Blaud's pill and Fowler's solution, gtt. v, thrice daily. This had to be stopped almost immediately on account of vomiting.

On November 4 liquor ferri dialysati, gtt. v ter in die, was prescribed. The dose was soon increased to twenty drops, thrice daily, and this treatment was continued until the patient's discharge from the hospital on Jauary 23d.

Although this woman's condition is, at the present date, by no means one of perfect health, yet she is able to go about and attend to light duties, speaks gratefully of her improvement, and intends to return shortly to England. These facts, however, would be very insufficient to warrant the published statement of her recovery. To prove that the case is one of recovery, it will be necessary first to consider what are the essential blood changes of pernicious anæmia; next, to show that they were well marked in the blood of this woman; and, finally, that they are no longer present.



Corpuscles of blood of pernicious anæmia.



Corpuscles of normal blood.

The cardinal features of the blood of pernicious anæmia are: great diminution in the number of the red corpuscles; no increase, or a slight relative increase, of the white corpuscles; increased size and altered shape of many of the red corpuscles; and, finally, a value in hæmoglobin of each red corpuscle equal to or exceeding the normal. This last is the most characteristic feature of the blood of pernicious anæmia, distinguishing it from all other forms, in which, without exception, the proportion of hæmoglobin is less than that of the red corpuscles.

In the case under consideration, the reduction in the number of the red corpuscles was extreme. A specimen of blood containing but 560,000 per cubic mm. is rarely encountered and never, I believe, in any disease but pernicious anæmia. They presented the well-known alterations of size and shape, as figured in the accompanying cut; and, finally, the value of the corpuscles was normal, the hæmic unit being 11.2, and the proportion of hæmoglobin 11 per cent. The difference of 0.2 per cent. is infinitesimal. Notwithstanding the absence of retinal hemorrhage, so frequently met with in pernicious anæmia, there can be no question whatever concerning the diagnosis.

The question of recovery is more difficult and requires a little discussion. Recovery from a disease does not necessarily imply restoration to health. A patient with locomotor ataxia, Addison's disease, or phthisis, may recover completely from some intercurrent affection while the original disease persists. The fact that the primary may have given rise, directly or indirectly, to the secondary affection, has nothing to do with the question of recovery from the latter. In the case under consideration, a group of blood changes characteristic of but one disease—pernicious anæmia—is found by careful examination and, in the course of time, this is replaced by another set of conditions equally characteristic of another disease—chlorosis. A wonderful improvement in the patient's general condition has coincided with this radical blood change and, therefore, it is proper to speak of the case as one of recovery. The history of this patient demonstrates, so far as is possible on such evidence, that for years past she has been chlorotic.

The pernicious anæmia, from which I consider her to have recovered, was, therefore, an intercurrent affection, and the question propounded in the first part of this article, Is chlorosis sometimes the first stage of pernicious anæmia? may be considered answered in the affirmative. It merits, however, something more than a monosyllabic reply. Opinions are divided as to whether pernicious anæmia is due to the operation of a cause (unknown) *sui generis*, or to the prolonged operation of the ordinary causes of anæmia. The writer is of the opinion that the varied clinical history of the different cases on record furnishes most decided evidence in favor of the latter view. Anæmia once established tends to perpetuate itself in that species of vicious circle of which so many examples are furnished by pathology. Thus, to take an extreme example, the epileptiform con-

vulsions which immediately precede death from hemorrhage are due to cerebral ischæmia, and this very ischæmia is increased by the convulsions, for experiments have shown that the voluntary muscles contain a much greater amount of blood during contraction than while at rest. It is quite as essential to the blood-making organs as it is to the nerve centres that they be properly supplied with blood in order that they may act their important part toward maintaining the bodily health. Doubtless there are reserve powers and compensatory activities in each and all of the blood-making organs which may suffice to furnish a fair quality of blood under the most adverse circumstances. These powers, however, have their limit, and, once exhausted, the anæmia instead of continuing "simple," "functional," or "symptomatic," becomes "essential," "organic," or "pernicious."

The second question, Does a patient, recovering from pernicious anæmia, pass through a stage of chlorosis? is now to be considered. Nothing is more difficult in medical research than to obtain examples of any fact in the clinical history of a disease which has not before attracted particular attention. In addition to my own case, I know of but one other, reported by Laache,[1] in which, with restoration of the normal number of corpuscles, the proportion of coloring matter remained so much below normal as to warrant the designation of the condition as chlorotic. I believe that attention has only to be called to the facts of my own case in order to make general the observation that chlorosis is frequently the first stage of pernicious anæmia, and that a patient recovering from the latter disease frequently, perhaps invariably, passes through a stage in which, with a greatly increased, perhaps a normal, number of red corpuscles, the proportion of coloring matter is far inferior—that is, a stage of chlorosis.

FIFTY CASES OF LACERATED CERVIX TREATED BY SILKWORM GUT SUTURE AND IODOFORM.

BY R. STANSBURY SUTTON, M.D.,
OF PITTSBURG.

Two weeks ago I completed a line of fifty lacerated cervix operations. These cases were all done in about twenty-four months. Each patient was prepared as usual, or as Emmet teaches. The instruments, sponges, and ligatures were scalded and used directly from the bath when sufficiently cool. The lips were well denuded, sound tissue being sought for always. They were carefully approximated and united with silkworm gut sutures, the ends left long. The cervix was then covered with a small teaspoonful of iodoform. The patient was put to bed, the catheter was not to be used unless the patient failed at the end of eight hours to pass water, and not again if it could be avoided. No douches were permitted until the sixth or, more generally, the seventh day, when a douche was given to clean the vagina preparatory to removing the sutures.

[1] Die Anämie, p. 190, Case No. 9.

In forty nine of the cases the temperature never exceeded 100° F., and in many of them 99° F. In one some sepsis occurred and the temperature exceeded 100° F. All recovered; in one there remained for a short time a fistulous opening at the site of the upper stitch. In one the lower stitch cut out. Both were unilateral cases.

Silver wire and douches and catheter can give no better results, and this method of treatment is infinitely less annoying to the patients.

The large amount of iodoform has not given any trouble. Those who will follow me in this method will, I believe, find it an advantage over the method of silver sutures and frequent douches. They will get lower temperatures and these cases will require no skilled nurse.

Any ordinary attendant who will do only what she is told to do will answer as well as the best.

I will do fifty cases with silk and chemically pure powdered boracic acid. But better results than I have obtained in the fifty cases reported above can scarcely be expected.

419 PENN AVENUE, June, 1886.

MEDICAL PROGRESS.

MASSAGE AS A THERAPEUTIC AGENT.—DR WILLIAM MURRELL, in the *British Medical Journal* for May 15, 1886, discusses as follows the field of therapeutic usefulness of massage:

It is no easy matter to say in what class of diseases massage proves most useful. Unfortunately, its employment has been advocated in many cases for which it is essentially unsuited. Accurate diagnosis is of the utmost importance, and the sphere of usefulness of this remedy will, with increased experience, become more accurately defined. My best results have been in infantile paralysis; and it was in consequence of the success achieved in certain obstinate cases of this disease, that my attention, as has been elsewhere stated, was directed to the subject. Progress is often slow, but the ultimate results are most satisfactory. The nutrition of the parts is maintained until new cells in the spinal cord take on the functions of those which have undergone degeneration, or have been destroyed. Massage is, undoubtedly, of much value in many cases of obstinate neuralgia, and succeeds admirably in some forms of muscular pain, such, for example, as those described by the late Dr. Inman under the term "myalgia." There is a general consensus of opinion that it is well adapted to the treatment of chronic joint affections; and most of those I saw treated by von Mosengeil were such as would, in this country, be considered incurable, or would drift into the hands of "bone-setters." There are some diseases of internal organs in which it is, undoubtedly, useful. Not long ago a gentleman, aged sixty-eight, came to me complaining of shortness of breath, and increasing disinclination to take exercise. He had been in business, and had led a most active and energetic life. Three or four years ago he retired, and, from that time, experienced a gradual falling off in health. His appetite was poor, his bowels were obstinately confined, and he was nervous and anxious about himself. He was found to have a loud apex systolic murmur, and

the heart's action was weak and irregular. I suggested massage, which was carried out systematically four days a week for a period of six weeks. He improved from the very first, and, before the conclusion of the course, was better than he had been for many months. His appetite returned; his hands and feet were warmer; the bowels became regular; he slept well at night; and his spirits improved in a most satisfactory manner. In other cases of obstinate constipation, especially in women, I have known massage of the abdomen do a great deal of good.

In a well-known group of symptoms from which women frequently suffer, massage is essentially useful. I recently saw a lady, aged forty-five, or thereabouts, a professional singer, who was laboring under the impression that she was going mad. She was so nervous that she was quite unable to accept an engagement, although she had been constantly before the public, and had hardly missed a night for twenty years. She told me that she felt she was not to be trusted, and that, if left alone, she would do herself or her children an injury. She was afraid to go near an open window, so great was the temptation to throw herself out; and she even begged that the knives might be removed from the table at dinner. These symptoms were greatly intensified after each monthly period, and she insisted that she was suffering from cancer, or some organic disease of the stomach or womb. She was restless at night, and would often get up in the early morning, and walk for hours, until thoroughly exhausted. She was given full doses of the bromides—a drachm, or more, four times a day—but with only temporary benefit. Massage was then tried; and it seemed, to use her own expression, to soothe her, and calm her, and make her forget her troubles. The case was a prolonged one, but now, at the expiration of three months, she is much better, and will soon be able to resume her professional duties. In several other cases of restlessness and inability to sleep, the same method of treatment has proved efficacious.

Dr. Graham, of New York, speaks highly of massage in the treatment of neurasthenia. He uses it for those "who, in spite of rest, change, and medication, have become chronic neurasthenics, the result of business reverses, overwork, worry, loss of relatives, disappointed hopes, or as a sequel of some affection that has existed in some part of the system, but which has been recovered from or has become of secondary importance." These symptoms may be somewhat ill-defined; but I have certainly found massage of the greatest use in what, for want of a better name, has been called "spinal nervous weakness," or "neurasthenia spinalis."

In the treatment of corpulence associated with constipation, massage is of much value. Some months ago I saw a lady, aged thirty-eight, who, as the result of much good living and little exercise, had become inordinately stout. She was very short of breath, and was disinclined for exertion of any kind. She had been fond of literary pursuits, but even those had lost their charm, and were irksome to her. She was extremely irritable, and a source of trouble and anxiety to her friends and relatives. Massage was prescribed, and in two months she lost a stone and a half in weight, and improved notably in other respects.

For many forms of menstrual disturbance, massage may be safely prescribed. I recently saw a young lady, aged nineteen, who suffered intensely at each monthly period, the pain being so severe that hypodermatic injections of morphine had to be resorted to. Massage of the abdomen and pelvis was prescribed, and from that time there was no return of the trouble. Cazeaux has reported several similar cases, in detail. In the convalescence from acute illnesses, this mode of treatment is a great help and comfort to the patient. There can be no doubt that massage is a very valuable therapeutic agent, and is likely to yield good results in many complaints other than those I have roughly indicated.

PARALDEHYDE AS AN ANTIDOTE TO STRYCHNINE.—BÓKAI finds from numerous experiments on frogs, that the absolute lethal dose of strychnine sulphate in these animals ($\frac{1}{60}$ to $\frac{1}{80}$ grain) is not fatal when they are previously stupefied by the administration of 1½ to 3 grains of paraldehyde. Rabbits, also, when previously stupefied by paraldehyde, will resist amounts of strychnine which exceed many fold the minimal fatal dose. Similar results have been observed in dogs.

Bókai proposes the administration of paraldehyde in acute strychnine poisoning in man, and states that in this case the dose would vary between 90 and 180 grains of the antidote. It should present certain advantages over chloroform and chloral hitherto used with good results in this condition, in that it exerts no deleterious action on the heart.—*Centralb. f. klin. Med.*, April 10, 1886.

PARALYSIS OF THE "GLOTTIS DILATORS" AS THE INITIAL SYMPTOM OF TABES DORSALIS.—PROF. A. WEIL, of Heidelberg, in the *Berl. klin. Wochenschrift*, for March 29, 1886, gives a full account of a case of tabes dorsalis, which set in with peculiar laryngeal symptoms. The patient is a man, æt. forty-nine, and a pilot on one of the large rivers of Germany. About a year before he consulted Prof. Weil he had passed through intense excitement, from the fact that his boat was in danger of colliding with another. He issued his commands in a very loud tone of voice, and immediately thereafter had an attack of extreme dyspnœa, which lasted about ten minutes with crowing respiration, etc. Eleven months later he had a second attack of the same sort. From that time the least exertion produced a loud snoring respiration. Laryngoscopic examination showed that the margins of the glottis were two to three mm. apart during expiration, but during inspiration there was nothing but a cleft-like opening left. Phonation was entirely normal. These symptoms differ from those of ordinary laryngeal crises in several particulars: 1. They are not distinctly paroxysmal; there is a *permanent morbid condition* which is aggravated by physical exertion or mental excitement. 2. There is no cough. In regard to the question whether these symptoms are due to paralysis of the *ab*ductor or spasm of the *ad*ductor muscles, the author is not prepared to give a definite answer, but he inclines to the view that there is paralysis of the dilator muscles. The author gives a list of published cases in which symptoms of this sort were observed. He refers very properly to the necessity of examining for tabes in all cases of sudden paralysis of the vocal cords.—*Journal of Nervous and Mental Disease*, May, 1886.

THE MEDICAL NEWS.

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SATURDAY, JULY 3, 1886.

ARTERIO-VENOUS ANEURISM.

THE occurrence of an aneurismal communication between an artery and a vein has fortunately never been very common, and it is believed to be less common in recent times than it was formerly, because the practice of venesection has fallen into disuse. Of this we cannot be so sure. For, although a large proportion of the aneurisms spoken of by the ancients, of whom Galen was the first to speak distinctly, were probably of this character and caused by venesection, nevertheless a careful study of the best statistics shows that a great many of the recorded cases are to be attributed to other traumatisms, and that not a few have been spontaneous. Thus BRAMANN, in an elaborate paper read before the Fourteenth Congress of German Surgeons, which appears in the *Archiv für klin. Chirurgie*, Bd. xxxiii. Heft 1, has collected the reports of 159 cases, in only 56 of which was venesection the cause, while 52 were attributed to other sorts of incised wounds, 29 to gunshot wounds, 1 to a contused wound, 5 to contusions, 1 to abscess, 1 followed an amputation, 1 followed castration (in an ox), the cause is not stated in 4 cases, and 9 were spontaneous. So, also, Barwell, in the article on "Aneurism," in the *International Encyclopædia of Surgery*, mentions 42 cases of arterio-venous aneurism involving the aorta, in 35 of which the lesion was certainly within the thorax, and this although the first accessible report of an aneurism in this locality, refers to a case published by Syme so recently as 1831.

It is a curious fact that, in comparison with this large number of cases, Bramann's table contains only one case of arterio-venous aneurism of the aorta and iliac vein, and one of the common iliac vessels. On the other hand, it includes 13 cases in which the lesion was in the vessels of the head, 16 in which it involved the carotid artery and the jugular vein, 11 in which it involved the vessels of the axilla, 63 in which the brachial artery and vein were involved, 36 in which the vessels of the thigh were involved, 14 in which the popliteal vessels were involved, 2 in which the vessels of the foot were involved, 1 in which the retinal vessels were involved, and 1 in which the lesion was situated in the stump of the spermatic cord in a castrated ox. This review of the situations in which arterio venous aneurisms have been noted indicates that the abandonment of the practice of phlebotomy cannot be expected to lead to the disappearance of this lesion, and that it is still worth while to study its nature, prognosis, and treatment.

This has been so thoroughly done by Bramann, that his conclusions merit careful appreciation. As to the prognosis of arterio-venous aneurisms, his statistics do not support the common opinion that the form called aneurismal varix (in which there is a direct communication between the artery and the vein) has a favorable prognosis, and that the form called varicose aneurism (in which there is an intermediate sac) has a bad one. The latter opinion he shares, indeed; but he finds that, although it rarely threatens the life of the patient, the aneurismal varix tends to such serious interference with the function of the limbs as to make its prognosis essentially unfavorable. As to the treatment, Bramann does not find much encouragement for the employment of digital or other compression, except as a preparatory measure; he rejects distant ligation, but endorses the method of ligating the vessels immediately above and below the aneurism, and splitting open or excising the sac. The only contraindication to this procedure, he says, is very serious disease of the blood-vessels.

It is usual in the books to warn against including the vein in the ligature applied to an arterio-venous aneurism; but this is probably not so dangerous a procedure as might at first be supposed. It is certainly to be avoided, if possible, in the case of the larger venous trunks, while it is probably of little consequence where the smaller ones are concerned. Finally, what we have said in speaking of the method of Antyllus, as applied to other forms of aneurism, in THE MEDICAL NEWS for May 1, 1886, is true in this connection, namely, that thorough excision is not to be looked upon as involving, at the present time, the dangers to which patients were liable before surgeons were as careful and as skilful in avoiding septic disturbances as they now are. Nor is it to be forgotten that conscientiousness, anatomical knowledge, and manual dexterity are factors of success which cannot be made to appear in tables of statistics.

Almost simultaneously with the appearance of the paper of Bramann, another has been published by PLUYETTE, of Marseilles, in the *Revue de Chirurgie*, for April 10, 1886, in which the subject is discussed in regard to aneurisms involving the carotid artery and the internal jugular vein, of which he tabulates 16 cases. Combining the statistics contained in this paper with those furnished by Bramann, we have a total of 22 such cases, to which may be added two (or three, if the name "Williamson" given by S. W. Gross, in his paper on "Wounds of the Internal Jugular Vein" in the *American Journal of the Medical Sciences*, for Jan. 1867, be not a misspelling of the name "Wuillaume" given by other authors), making in all 24, or 25, cases of this kind. In most of these cases the treatment was expectant and symptomatic, with the result of recovery or marked improvement. In one case the wound was tamponed and compression applied. This patient recovered. In another case instrumental compression was followed by a cure. In three cases the aneurism was treated by ligation, and only one of the patients recovered. It is noteworthy that all of these operations were done in this country. The first was done by Randolph, in this city; the second was by Prince, in the Army; and the third was done by L. A. Stimson, of New York. The latter is the only surgeon who has had a patient to recover after this grave operation.

From this it appears that arterio-venous aneurisms involving the carotid artery and the jugular vein are hardly to be considered amenable to active surgical treatment. The same, it is not necessary to say, is true of such aneurisms within the thorax or abdomen. But when the aneurisms involve the vessels of the extremities, the principles laid down by Bramann may properly be adopted.

MULTIPLE NEURITIS.

FROM the clinic of MASSIUS, of Liége, FRANCOTTE contributes to the *Revue de Médecine*, for May, an important article upon multiple neuritis, a subject which neurologists have recently studied with great care, and, as the paper under consideration shows, with striking results. An affection of the peripheral nerves has been demonstrated in the toxic paralyses, including the alcoholic, in certain cases of tabes, in that curious Japanese disease Beri-Beri, and in the palsies which sometimes follow the specific fevers. There may be widespread involvement of whole groups of nerves, or the affection may be localized; but from the distribution, mode of onset, and symptoms there is not often serious difficulty in excluding a central origin of the affection.

Francotte reports four cases of acute general paralysis, resembling in many respects Landry's ascending paralysis, in two of which the post-mortem examination showed the lesions to be entirely peripheral. The first case was a phthisical patient aged fifty, who for several months complained of feebleness of the legs and lumbar pain, and then, within eight days, became completely paralyzed in the arms and legs, and death took place six days after the onset of the acute symptoms from involvement of the respiratory muscles. In the second case, a woman aged forty-six, the symptoms began with pains in the legs, weakness, with difficulty in walking, and then rapid paralysis with moderate atrophy. The arms became involved, and death took place within a month from the onset of the symptoms. The lesion in these cases was confined to the peripheral nerves, and was of the nature of an atrophic degeneration. The anterior and posterior nerve roots were normal. The third case was in an alcoholic, in whom the paralysis supervened rapidly with pain, became general, and, after an illness of more than a year, the patient was gradually regaining power over the muscles. In the fourth case, that of a woman aged fifty-three, the invasion was rapid, the paralysis of the members was complete, and there was moderate atrophy. After many months recovery gradually took place.

These cases presented many points of resemblance to Landry's acute ascending paralysis, the lesion of which has usually been regarded as spinal, though much doubt exists as to the true nature of the changes. Quite recently Immermann has found acute poliomyelitis in a case with all the symptoms of this affection, while Eisenlohr describes a case which clinically resembled Landry's paralysis, but the lesion was a peripheral polyneuritis. The differential diagnosis between a poliomyelitis anterior and multiple neuritis is certainly difficult in such cases as noted by Francotte. Both affections are characterized by a paralysis beginning in the lower extremities and gradually extending to the arms and trunk, atrophy of moderate grade, and alterations in the electrical contractility. The deep reflexes are abolished, the superficial reflexes are feeble or absent, the cranial nerves are intact, and the sphincters are not involved. These symptoms are common to poliomyelitis and neuritis. The differential signs are: 1st, the more favorable termination in many cases of neuritis; 2d, the parallelism in neuritis between the disturbance of the electrical contractility and the voluntary movements—the presence of the reaction of degeneration, with more or less conservation of voluntary motion, is indicative of a lesion of the anterior horns; 3d, in poliomyelitis the paralysis is localized in certain groups of muscles innervated by different nerves, but associated in the performance of certain movements; 4th, the sensory disturbances, which are marked in most cases of multiple neuritis.

While in typical instances these differential signs may be sufficient to indicate the peripheral or the

central disease, it will frequently be found a matter of no slight difficulty to make a diagnosis. Practitioners will, however, do well to remember that there are cases of multiple neuritis with the clinical picture of an acute ascending paralysis, but with the important difference that they tend, in many instances, to recovery.

THE PULSE IN PREGNANCY, IN LABOR, AND IN CHILDBED.

DR. PIERRE LOUGE has recently written a monograph entitled *Le Pouls Puerpéral Physiologique.* In it he gives an extension to the word puerperal which is not justified by its etymology, and which is confusing; in this he merely follows the bad example of some eminent French and English writers. He and they include under the term puerperal the state of pregnancy, labor, and lying in. Such application is permissible so far as labor is concerned, though it would be better to restrict the term to the puerperium, but it certainly is wrong to call the pregnant woman a puerpera. Any one by turning to Andrews' Freund, will find that *puerpera* is defined, first, as a woman in labor or in childbed, then as a lying in woman. It would be quite as correct to include pregnancy in the word puerperium.

But passing from this verbal criticism, let us refer first to the results the author has attained from his examination of the pulse in pregnancy. During the first three months of pregnancy the radial pulse is frequent and regular, the mean frequency being 86. During the second three months the pulse retains the same characters, and becomes fuller and less compressible. During the last three months, the only notable change is that it becomes harder. The pulse of primigravidæ is from 86 to 90, and that of multigravidæ from 80 to 86. The slowest pulse observed was 72, and the most frequent 100.

Jorisenne's "new sign of pregnancy," that is, the invariability of the frequency of the pulse no matter what the position of the subject, lying, sitting, or standing, he has not found true, except occasionally after the fifth month, and at that time other signs of pregnancy generally make the diagnosis easy; beside, this invariability of frequency he has found to occur during menstruation.

The pulse in labor varies during uterine contraction and repose. In the former its frequency increases 15 or 20 beats a minute, and during the latter, it is from 70 to 80.

Soon after the escape of the fœtus, the average frequency of the pulse is 82, the maximum 110, the minimum 62. Contrary to the general statement made by obstetric authorities, during the physiological chill, which in many cases follows the delivery of the placenta, the pulse is increased in frequency, beating from 100 to 120 a minute. This statement needs to be confirmed; we believe that it is exceptional when such increase in frequency occurs.

During the lying-in, the pulse is not in all cases constantly slow. In some patients during the entire period it varies from 72 to 80, never going below the first figure, but sometimes going above the second. In the larger number of cases, however, it oscillates between these limits, but during some of the days, by no means uniform, it momentarily descends to 60 or 58. In still other cases where the pulse was 70 to 84 after the delivery of the placenta, it becomes slow, oscillating between 50 and 46. The secretion of milk is generally established without the form of the pulsation changing, but in many cases there is increased frequency.

Louge has found no connection between the characters of the pulse and uterine regression. While he regards the pulse as furnishing valuable clinical information, he justly judges it inferior in most cases, in this respect, to the temperature—indeed, the thermometer may reveal danger in the lying-in woman whose pulse is not affected.

Louge has taken numerous sphygmographic tracings of the pulse in pregnancy, labor, and in childbed; but these tracings do not prove the increase of vascular tension, generally accepted by obstetricians to be normal in the first two, and by Marey said to occur in the last—an assertion which, though since denied, especially by German observers, ought not to be hastily set aside, considering Marey's well-known accuracy of observation.

OPERATION FOR EXSTROPHY OF THE BLADDER.

UP to the present time the most promising methods of operating for exstrophy of the bladder have been those of Roux and Wood. The former consists in the dissection of a flap from the inner side of the thighs and upper surface of the scrotum, turning this over the mucous surface of the bladder, and making a small opening below, through which the rudiment of the penis is slipped. The free edge of the flap is united to the edge of a suitable incision carried through the skin of the abdomen, and its external raw surface is allowed to heal by granulation, the resulting contraction contributing to the cure of the hernia, which so often accompanies exstrophy. In the method of Wood, a flap is taken from the skin of the abdomen above the exstrophy and turned down. Then a flap is made on each side of the abdomen at the level of the exstrophy, and these are turned over and their edges brought together in the median line. The various edges are then united by sutures, and whatever of the flayed surface of the abdomen cannot be brought together is allowed to heal by granulation. These methods have given as good results as are likely to follow any method resting upon the principle of supplying

Nature's defect, without attempting to correct her error. The latter method, however, must be more likely to succeed, if it can be applied to any case. In the case of exstrophy, we think it may be regarded as an important step in the right direction that Trendelenburg has recently practised, and recommended in the *Centralblatt für Chirurgie*, Dec. 5, 1885, a method which aims to go further toward correcting the congenital defect than does any other.

The most important feature of this method consists in dividing each sacro-iliac synchondrosis, and then pressing together the separated edges of the perpendicular rami of the pubic bone and retaining them in this position with a suitable apparatus. The edges of the mucous membrane are then freshened, the prolapse of the bladder is reduced, the edges of the exstrophy are drawn together with the Lembert suture, and a soft catheter is left in the newly formed cavity to draw off the water through the channel made by the operation. When he suggested this method, Trendelenburg had employed it only once, so far with a satisfactory result. This is enough, however, to recommend it strongly to other surgeons, since it has the merit of being most philosophically conceived.

REVIEWS.

ALPINE WINTER IN ITS MEDICAL ASPECTS, WITH NOTES ON DAVOS PLATZ, WIESEN, ST. MORITZ, AND THE MALOJA. By A. TUCKER WISE, M.D., L.R.C.P., M.R.C.S., etc. Second edition. 8vo. pp. 121. London: J. & A. Churchhill, 1885.

THE present volume, a second edition of the *Alpine Winter Cure*, with changed title, contains a detailed description of the principal winter health-resorts of the Grisons in Switzerland. The intention of the author, as expressed in the preface, to exhibit the remarkable curative and health-giving properties of Alpine climate in their true light, avoiding exaggeration or an omission of those minors details termed "drawbacks," so necessary to be portrayed in the consideration of any foreign or home health-resort has been well carried out, so that the book may be accepted as a safe guide both by patients who are thinking of visiting the Swiss sanitaria and by physicians who are seeking precise information regarding them.

The places described are too distant to be of any advantage to Americans, bu the climatic properties of these resorts which have been extolled as of practical value and application in the treatment of disease, are to be encountered in the vast range of territory on this side of the Atlantic, and whatever advantages are to be derived from the "high altitude cure" can be secured under similar conditions of climate without sending patients across the ocean.

The first chapters of the book describe the places mentioned in the title, as well as the means of access from England. Then follow remarks upon water and soil, atmosphere, therapeutic effects of "cold," on sunlight, barometric pressure, oxygen, ozone, ventilation, and the effects of the climate on the vascularity of the lungs, and on nutrition. Useful practical hints are also given in regard to clothing, diet, exercise, sleep, mode of travelling, etc. The beneficial effects of a pure, cold, dry air are clearly presented. Great stress is laid upon the importance of thorough ventilation and good drainage.

As a large proportion of the time must necessarily be spent in the house, it is essential for the full development of the curative effects of the climate that the air within shall be preserved free from contamination. The want of proper ventilation is one of the principal drawbacks to some of these winter resorts; but this deficiency has been supplied in a notable instance (which it is hoped may be imitated by other hotel proprietors and companies), by the construction on the Maloja plateau of a large Kursaal, fitted with arrangements for the propulsion and extraction of air throughout the building, by which the pure quality of the air breathed within doors is constantly maintained.

The work concludes with notes of meteorological observations, taken at Maloja and other neighboring stations. Dr. Wise's book is interesting and instructive, and can be recommended as a good exposition of what has been termed "the high altitude cure."

SOCIETY PROCEEDINGS.

ASSOCIATION OF AMERICAN PHYSICIANS.

First Annual Meeting, held at Washington, D. C., June 17 and 18, 1886.

(Specially reported for THE MEDICAL NEWS.)

FRIDAY, JUNE 18TH.—SECOND DAY.

MORNING SESSION.

DR. W. COUNCILMAN, of Baltimore, read a paper entitled

CERTAIN ELEMENTS FOUND IN THE BLOOD OF MALARIAL FEVER.

He said that there were certain living organisms found in the blood of persons suffering from malaria, both in the red corpuscles and serum which may be considered pathognomonic of the disease. They are most abundant during or immediately after a chill. They are more difficult to find in fresh than in dry blood, and even in the latter need a high power of the microscope and immersion lenses to be detected. They are amœboid and more rapid in their movements than the white blood-corpuscles, and sometimes contain pigment granules. They are best stained by fuchsine. Besides, there are hyaline bodies found in the blood after death in fatal cases. During the course of his paper he presented many diagrams illustrative of the microscopic appearances of the organisms he had mentioned, many of which were from original drawings from specimens that he himself had prepared. He went minutely into the researches of European observers, and said that he had been entirely unable to verify those of Labaran, whose results do not tally with those of most other observers. Whether these organisms in the blood are the cause or effect of malaria, it is difficult at present to determine. They are not found, however, in healthy blood nor in other diseases. He had acci-

dentally made two control experiments. Specimens of blood from two cases of supposed malaria were presented to him, in which he had failed to discover these organisms. One of these cases afterward turned out to be pneumonia and the other acute tuberculosis.

DR. WILLIAM OSLER, of Philadelphia, said that he had examined the blood in six cases; three during the intervals of the chills, when the patients were under quinine, and three during the chills. The latter cases confirmed the presence in the corpuscles of the bodies in question. The number of the corpuscles containing them is variable. They show very rapid amœboid movements, and there may be several of them in one corpuscle. They look more like hyaline spaces or vacuoles. There are sometimes solid bodies in these spaces which may be microörganisms. In one case, after twenty-four hours there appeared a body in the blood like those described by the Italian observers. He very much doubted whether these so-called amœboid bodies were microorganisms at all. Their behavior and appearance were far more like vacuoles, which might have resulted from irritation of a microörganism in the blood.

DR. GEORGE M. STERNBERG, U. S. A., agreed that there is very much to be learned as to whether a parasite is or is not the cause of malarial fever. He had seen the blood of malarial patients under the microscope, both in Rome and in Baltimore, and was quite satisfied that they could not be vacuoles, but living bodies, for they can be stained, and how could one stain a vacuole? Beside this, we have the hyaline bodies, the spherical forms of which are also stainable. The occurrence of pigment granules in the supposed vacuoles is also an argument against their being merely vacuoles. He has more confidence in Labaran's researches than has Dr. Councilman, as he considers him a thoroughly competent observer, and his results have been verified by another observer. He would say that, having seen the preparation of the Italian observers, and also those of Dr. Councilman, the latter were equal in every respect, if not superior, to the former.

DR. COUNCILMAN, in reply to Dr. Osler, said that if Dr. Osler had stained his preparations, he would have reached different results, and have seen that what appeared in unstained specimens to be separate bodies was really but one body, connected together by a thin film. Their power of being stained shows them to be not vacuoles, but organisms, as does also the fact that they contain pigment granules. In reply to Dr. Sternberg, he would say that he had no doubt that Labaran had really seen the appearances he described, but he thought his explanation of them was wrong, since even the Italian observers had noticed them only four times.

DR. H. N. LYMAN, of Chicago, then read a paper on

TETANY.

He began his paper by describing a remarkable case of tetany in a young man, a printer, aged twenty-eight. He had been delicate for fourteen years; eight years ago had had a hacking cough, which, after continuing a year, was followed by hemorrhage, which recurred frequently for the next two years, varying in quantity from a drachm to several ounces at a time. For the past five years had been in good health, without cough or hemorrhage. In February, 1884, had a paroxysm of shortness of breath, which lasted an hour. In August of the same year had a nervous attack, which lasted five hours, accompanied by convulsive movements of the forearm and hand. In January, 1885, there were severe dyspnœa, hoarseness, pain in temple, haggard expression of countenance, and convulsive movements. The attacks came on at uncertain intervals; they were generally ushered in with a headache, beginning several hours before. They were accompanied by pain in the chest, pain commencing in the right arm and running to the left arm, and opisthotonos. Sometimes the ends of the fingers are drawn together, and sometimes drawn over to the ulnar side of the hand. There is marked dyspnœa, and the voice is affected and remains husky for a good while after the attack has passed off. There is at no time any loss of consciousness, but temporary loss of memory was noticed after a severe seizure. After one attack the right side was partially paralyzed for a certain time. He occasionally suffered from vomiting, and his general health was declining. In his case general remedies were useless; the bromides had no effect, and reliance had to be placed on hypodermatic injections of morphia, assisted by inhalations of chloroform. Trousseau recognized three forms of tetany: First, where the extremities alone were affected; second, where the face and trunk were affected, accompanied by transient swellings; third, greater diffusion and severity of the spasm. In none was there loss of consciousness. A mild form is often seen in little children with summer diarrhæa, where we have only the convulsive bending of the thumb upon the palm of the hand. The disease is more frequent in females or in males with feminine characteristics. The difference between the forms is simply one of degree. Our knowledge of it may be summed up in the statement that it consists of generalized tonic intermittent convulsions of extremities alone, or of extremities and trunk. Any class of muscles may be affected, but the flexors are those most generally attacked. Headache and disorders of digestion are very common. The pain is often severe, but it may be of a sluggish character, or even absent. The sensitiveness of the skin during the attack is increased, and there is at times swelling of the joints. In most cases there is no dyspnœa; there is increased irritability to electricity.

Death is rare except as a consequence of laryngeal spasm. Post-mortem examinations have thus far failed to reveal any pathological changes distinctive of the disorder.

It is most frequently observed at periods where there is instability of the nervous system. Thus it is most frequent in children at the time of teething, again at puberty, during lactation, in persons of sedentary habits, in those possessing rheumatic diathesis, and anything that causes depression of vital powers.

The differential diagnosis is between organic brain disease, epilepsy, professional cramps, Thomsen's disease, ergotism, and tetanus. Organic brain disease can be excluded by the history of the case, epilepsy by the presence of consciousness, by the limbs being affected first, and in the severer stages by the occurrence of opisthotonos. Tetanus is excluded by the absence of trismus and the fact that there is no wound. Professional disease by the history. Thomsen's disease by the latter being congenital. Ergotism is detected by the diet of the patient, and it is an extremely rare

disease. The mild form requires no special treatment. General measures should be employed and the severe attacks treated by narcotics.

DR. JOHN T. CARPENTER, of Pottsville, Pa., thought the causation of tetany was still obscure. He had noticed its association with septic poisoning. The case that first drew his attention to it was that of a child, two years old, with an abscess on the buttocks which had been caused by a sting. There was a cyst-like swelling over the trochanter which discharged an inodorous pus, and then healed. After this the child became restless and sedatives proved useless. Then the eyes became fixed, looking toward the right side, and there was a tonic spasm on the right side. Afterward the fingers of the left hand were drawn tightly together, the spasm being not intermittent but spastic. The spasms returned at intervals in various parts of the body, at one time the mouth having to be pried open. These symptoms were relieved by chloral and chloroform. The child died at the end of a week. There was at no time any loss of consciousness, the family history was good and all the surroundings hygienic. Septicæmia may produce tetany, as in the septic diarrhœa of children, etc.

DR. J. PEYRE PORCHER, of Charleston, S. C., referred to a case where an attack was excited by an attempt to thread a needle.

DR. A. JACOBI, of New York, said that the cases so rarely end in death that we have little opportunity to examine the pathological changes. Meningitis had been found after death, and probably this is the cause of the attacks. Masturbation may be an exciting cause. He had had a patient of his who had noticed this fact in himself. It may be excited by any kind of sexual excitement. Cases of women who have catalepsy on coitus are recorded.

DR. LYMAN thought that Dr. Jacobi's position in regard to meningitis being the cause of tetany too extreme. There is, generally, hyperæmia of the membranes of the cord, but recent observers say there is no definite lesion. In severe cases there is transient loss of memory after the attacks, as in the one he had related, but this may be due to the effect of the medicines used. Sexual excitement is an important exciting cause.

DR. REGINALD H. FITZ, of Boston, read a paper on

THE INFLAMMATORY DISEASES OF THE APPENDIX CÆCI,

which consisted of a very full and accurate analysis of a great number of cases of perforating appendicitis; a disease which, he said, is most apt to affect healthy adult males. It is characterized by sudden severe pain in the abdomen of a previously healthy individual, and is accompanied by chill and nausea. There is generally a point of tenderness on pressure, usually in the right iliac region, but owing to the changes in the position of the appendix it is by no means constantly in that place. It must be differentiated from perityphlitis and inflammation of the cæcum. There is generally a tumor that can be felt, if not by external manipulation, by the rectal touch. There is frequently severe pain on micturition. The extreme gravity of the disease renders an early diagnosis most important, as the operation of laparotomy should be performed as early in the disease as possible. The third day of the disease is not too early and, if the diagnosis is clear, the operation should be performed earlier. The danger lies in the occurrence of general peritonitis. (The paper will appear in full in *The American Journal of the Medical Sciences* for October.)

DR. WILLIAM PEPPER, of Philadelphia, said that two facts had recently come to his notice in connection with appendicitis that had served to illustrate views he had already held. The first was in the case of an autopsy of a man who died of another disease.

During the autopsy he turned his attention to the appendix, as is his custom. The cæcum was normal. There was a small collapsed portion of the appendix and a portion that was stuffed. On section a concretion was found, evidently of old date. Still there was no evidence of irritation. The second fact was developed in the autopsy of a man who had died of perforating appendicitis. He was an extremely active man of business, tall and slender. Although he had employed no physician, his friends had seen that he was in failing health for some time. He was taken sick on a Monday with pain and vomiting. The temperature at first was only a little above normal; it never rose above 102° F. The heart was irregular but not rapid. There was marked pain over the abdomen, but this yielded and became moderate under the use of opiates. There was moderate distention of the abdomen and rigidity till the fourth day of the disease. There were tenesmus and frequent micturition, the urine being clear and copious in character. There had been several evacuations of the bowels at first. There was an indistinct tumor. Collapse occurred on the fifth and death on the seventh day of the disease. The diagnosis was so obscure that it was not made out till too late for an operation to be performed. The autopsy did not reveal peritonitis, but the peritoneum was reddened. There was a singular angularity between the ascending and transverse colon, on the one side of which there was fulness and on the other collapse of the intestine. There was, however, no true constriction. There was plastic lymph around the brim of the pelvis, which circumscribed the pus in the pelvic cavity. The appendix was dilated, thickened, and partly gangrenous. There was a large perforation but no concretion.

The cases illustrate the fact that the acute disease is an explosion of old catarrhal appendicitis. Previous trouble nearly always exists. It is caused by errors of diet, unhygienic habits, etc. The solid bodies which are found are not due to cherry-stones and substances of that kind, as is often supposed, but are true concretions. The difficulties of diagnosis are great. There may be no distinct tumor. The first result of treatment is often encouraging, and therefore helps to increase our liability to overlook the true character of the disease. Early operation is the only chance for saving the patient.

DR. J. T. DANA, of Portland, Me., had found by observation that in cases of simple uncomplicated appendicitis the symptoms are often latent. He referred to the case of a young and promising physician, an *interne* in the Maine General Hospital. On a Friday morning the young doctor had spent two and a half hours with Dr. Dana going the rounds of the hospital. The next morning he was poorly but only felt badly in a general way. Temperature 102.5° F. during the next two days. Sunday the disease rapidly progressed, and he died the next day, seventy-two hours from the first serious symptom.

The autopsy revealed general peritonitis, perforation of the appendix with two flattened concretions, one within and one outside the appendix. Here was a case where the course of the disease was essentially latent. The only prodromic symptoms were that about three weeks previous he had been "bilious" and had apparently recovered after some simple treatment. On the day before he was taken ill, he had had a sudden sense of faintness. This was probably the time when the perforation had occurred. In conclusion, he thought that it was an error to say, as some did, that pain in the region of Poupart's ligament is specially diagnostic of appendicitis any more than of pericæcal abscess. In the case he had related, the young man, who was extremely intelligent, said he could not be sure whether there was increased pain on pressure in any locality, but thought it was rather more in the right iliac region.

DR. LOOMIS, of New York, considered Dr. Fitz's paper a most valuable one as giving us positive data in regard to points of diagnosis. An early diagnosis is extremely difficult, in fact it is impossible by ordinary methods of diagnosis. He thought the occurrence of a chill or of chilly sensations very valuable. Pain, when present is usually, but not always, localized. Some years ago he had determined, in view of the great importance of an early diagnosis, to examine every patient who presented any symptoms pointing to appendicitis, per rectum under chloroform. In the first case of the kind that next presented itself he tried it. There had been a chill the day before. External examination revealed nothing. The examination by the rectum showed an increase in size where it would be expected. Having made out the diagnosis, he advised an operation. It was refused. The patient died on the third day. He had twice since had opportunities of testing the value of the double method of examination. The difficulty is increased by the fact that the vermiform appendix is often out of place, sometimes toward the median line. Then sometimes one part of it and sometimes another is affected. A certain amount of inflammation is necessary to establish a diagnosis. If perforation occurs, unless the treatment be changed to a surgical one, the patient dies. The operation should be done as soon as perforation can be made out, for the danger lies not in the spreading of the inflammation to the peritoneum, but in the escape into the peritoneal cavity of intestinal gas, through the perforation, thus setting up general and fatal peritonitis.

DR. W. W. JOHNSTON, of Washington, D. C., referred to a case that he had seen years since in consultation. The boy had had symptoms of perityphlitis. There was an abdominal tumor. This subsided and examination showed the presence of fluid in the pleural cavity. He was tapped for this and a quantity of purulent fluid was drawn off. The boy was not benefited by the operation, and death followed from exhaustion. The autopsy showed that the pus had come from a perityphlitic abscess, and had extended upward behind the liver. This organ had been compressed by it and had the appearance of having been grooved. The pus had thence made its way through the diaphragm into the pleural sac. This case happened before abdominal operations were considered as safe as they are now.

DR. E. G. JANEWAY, of New York, related the case of a young man who had been attacked by colicky pains. There was some febrile excitement. A careful examination showed that there was either an intestinal abscess or tuberculosis. As the case progressed there were convulsions and coma, and the symptoms rather pointed to tuberculosis. The autopsy showed the appendix glued to the brim of the pelvis. There had been pressure on the ileocæcal vein, which was thrombosed. There were multiple abscesses in liver, brain, etc.

He divided the cases as follows: 1. When general peritonitis is the first symptom noticed; 2. Where there is localized peritonitis; 3. Where there is inflammation of the cellular tissue, with or without abscess.

In the third variety the diagnosis is difficult. There is sometimes in these cases a great deal of œdema with very little or no pus. These may go on to recovery. In the second variety, an operation is necessary.

The varieties must be distinguished. The early symptoms are very much the same. In a certain proportion of cases the pain, though severe, is not localized. There is pain on micturition, and this is sometimes so severe as to simulate the passage of a renal calculus. There is generally some point of deep-seated infiltration and tenderness. He spoke of a case where a large abscess had discharged into the cæcum, resulting in recovery but followed by prolapse.

DR. FITZ, in concluding the discussion, said that incipient appendicitis was so obscure that he had only begun his consideration of the subject with perforation. He agreed with most of what had been said. There are local pain, slight fever, appearance of tumor, a sensitive spot. Palpation must be employed over seat of pain.

The Association then went into

EXECUTIVE SESSION.

DR. HOSMER A. JOHNSON, Chairman of Committee on

PERMANENT ORGANIZATION,

reported that the committee had concluded to recommend the election of the temporary officers to their respective places as permanent officers for the present session. They made the following nominations:

OFFICERS FOR THE ENSUING YEAR,

President.—Dr. S. Weir Mitchell, of Philadelphia.

Vice-Presidents.—Drs. Francis Minot, of Boston, and R. Palmer Howard, of Montreal.

Secretary.—Dr. George L. Peabody, of New York.

Recorder.—Dr. G. T. Whittaker, of Cincinnati.

Treasurer.—Dr. W. W. Johnston, of Washington.

Council.—Drs. Wm. F. Draper, of New York; Robert T. Edes, of Boston; H. M. Lyman, of Chicago; Samuel C. Busey, of Washington; Fred. C. Shattuck, of Boston; Wm. Osler, of Philadelphia; and W. A. Welch, of Baltimore.

DR. WILLIAM PEPPER moved that a committee be appointed to confer with similar committees of other special societies on the advisability of forming an association of all of them under the name of

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

Adopted.

The President appointed Drs. Wm. Pepper, R. T. Edes, R. Palmer Howard, J. T. Whittaker, Francis Delafield.

AFTERNOON SESSION.

DR. WILLIAM M. POLK, of New York, read a paper entitled

PERIUTERINE INFLAMMATION.

There are observed in certain cases of uterine disease certain inflammatory masses at the roof, sides, or back of the vagina (very seldom in front), which have frequently been described wrongly under the head of pelvic cellulitis. He proceeded to give a review of the progress of medical opinion on the subject down to the present time. He considered that it is now pretty evident that the principal factor in periuterine inflammation is tubal disease.

What are the causes of these masses? 1. They are the result of salpingitis plus peritonitis. They consist of the tubes, ovaries, connective tissue, etc. 2. Inflammatory masses do not originate from uterus or vagina except after abortion or operation. The starting-point of the process is found, however, in the vagina and uterus. How can the disease extend by the veins, lymphatics, or more directly by the tubes? In septicæmia the process extends by all these paths. That in the case of periuterine inflammation it should extend by way of the tubes is in accordance with analogy. Vaginitis has a tendency to extend to the uterus; why not also to the tubes? The spermatozoa take this course. In the male the course of inflammation and its spread are definite, but how rare it is to find that it causes phlebitis or cellulitis, although it extend as far as the kidney, The inflammation in the female extends in the same way. These arguments, however, being theoretical would not be sufficient alone. In autopsies we find further confirmation. Here, except in cases of septicæmia, cellulitis as secondary to inflammation of the tube is rare. The evidence of the post-mortem room is in favor of the masses in question being the result of salpingitis. It is possible to trace the inflammation along the mucous tracts. As a rule, no thickening of the ligaments is observed, although their appearance might give rise to the idea that there was, owing to a cicatricial condition of the peritoneal covering. There is sometimes found also an enlarged gland. He had made an analysis of fifteen cases of apparent pelvic cellulitis which the post-mortem showed were not this but salpingitis. Owing to the shortness of the time, he only read three of the cases as illustrating his point. The idea that abscess rarely originates in the pelvic cavity is an erroneous one. The etiology of these masses is to be found in endometritis, salpingitis, etc. It is more apt to occur in those who have borne children than in those who have not. Death is a very exceptional result. Where there is septicæmia, or where the system is very much run down, the prognosis is grave. But even abscess may be followed by recovery. The large majority of those affected live. The majority not only live, but recover and bear children. The cure is indicated by disappearance of the masses. When the masses remain, cure is difficult, and when the uterus is movable the disease may be set up again. Sterility in such cases is not uncommon. Whenever there is septicæmia, cellulitis may be present, but still it is not the cause of the masses. In regard to the advisability of removing the tubes, Dr. Polk said that we must bear in mind the difference between the acute and chronic cases. As recovery is very frequent we should be careful about operating. In acute cases surgical means should be resorted to only to cut short general peritonitis. In chronic cases it should be looked upon as a *dernier ressort*. It may sometimes be avoided by tearing up the tubes from the adhesions.

DR. FITZ spoke in confirmation of Dr. Polk's paper. The condition in question was unknown till recently. After the age of fifty it is rare. He thought that cellulitis might be set up by extension.

DR. WM. H. WELCH, of Baltimore, read a paper entitled

AN EXPERIMENTAL STUDY OF GLOMERULO-NEPHRITIS.

In his paper he confined himself to the consideration of the alterations of the Malpighian bodies, beginning with an account of the literature of the subject since the time of Beer, in 1859. This showed, as he pointed out, that there is a great diversity of opinion not only as to the interpretation of the facts observed, but also of the facts themselves.

The following questions have not yet received full and satisfactory answers.

1. What is the origin of the cells which often, in nephritis, occupy the space between the glomerulus and the capsule of Bowman?

2. Does emigration of white blood-corpuscles and diapedesis of red corpuscles take place through the glomerular capillaries?

3. What is the origin of the cells which in many cases are found in large number in the interior of the glomerular capillaries?

4. What *rôle* as to frequency and intensity do changes in the glomeruli play in the pathology of Bright's disease?

With a view of throwing light upon some of these doubtful points by experiments upon animals, he had made a study of nephritis produced by acute cantharidin poisoning with especial reference to the alteration produced in the Malpighian bodies. A description of the structure of the normal glomerulus was then given. His experiments, which are not yet completed, were made upon white rats and rabbits. He used a concentrated solution of cantharidin in acetic ether. He injected subcutaneously in rabbits usually from one-half to one centigramme of cantharidin, and in rats from one to three milligrammes. When a number of injections were made on successive days, smaller doses were used. After the injection of a toxic dose the urine becomes diminished. It contains albumen, hyaline casts, and a large number of leucocytes and red blood-corpuscles. The kidneys appear swollen, congested, and more succulent than normal. In the rat's kidney there are here and there foci of infiltration, with small, round cells, doubtless emigrated white corpuscles. They are most common around the veins at the base of the pyramid, though they are not constantly present. The epithelium of the convoluted tubes is in some places swollen, and the inner parts often broken off, appearing as a granular mass in the lumen of the tubes. At times a number of the cells are devoid of epithelium, and are then pale and homogeneous, and have apparently undergone coagulation-necrosis. The tubes are wider than normal.

In the Malpighian bodies there is a wide space be-

tween the glomerulus and Bowman's capsule partly or wholly filled with cells and a finely granular material. These cells are generally polyhedral and much larger than white blood-corpuscles, they have granular protoplasm and are possessed of oval, vesicular nuclei and are arranged frequently as a concentric mass around the glomerulus. These appearances are similar to those seen in glomerulo-nephritis in man. The explanation usually given for them in the human subject is not applicable here. The cells in this case are not only white blood-corpuscles, but they may be and are derived also from the epithelium of the convoluted tubes with which they are identical in appearance. This is certainly the case with the cantharidin-nephritis in man. The presence of the cells in the capsular space is probably to be explained by their being mechanically pushed from the tube thither. The processes under cantharidin in the rabbit's kidney are, speaking generally, similar to those observed in the rats. He was not inclined to generalize from these researches as to the occurrence in man of this peculiar and hitherto undescribed process, though the possibility that a certain number of cells in the capsular space may be from the epithelium of the convoluted tubes is to be considered.

In his experiments he found that the glomeruli contained an increased number of small, darkly staining nuclei, readily distinguished from the larger and paler nuclei of the epithelium. The former nuclei belong to cells which are either free in the lumen or attached to the inner surface of the capillaries. Some appear to be white corpuscles and others endothelial cells. There is not such a marked accumulation of new intracapillary cells as is observable in the human subject.

Swelling of the endothelium and accumulation of cells in the glomerular capillaries appear to be nearly constant lesions in acute diffuse nephritis of scarlatina. He described the appearance of the kidneys in a man who had had malaria and albuminuria with casts. The chief abnormality found here was that the glomerular capillaries, almost without exception, contained an increased number of cells. In most instances they were widely dilated and filled with variously shaped cells. This was discovered only after very carefully made sections. Important as the changes in the glomerular capillaries are, we are not justified in asserting, as was done by Langhaus, "that these changes constitute the primary and essential lesion of Bright's disease." They are coördinate with the other lesions of diffuse nephritis, and, with our present knowledge, nothing is gained by saying that one of these lesions is primary and essential, and another is secondary and unimportant.

As regards nomenclature, Dr. Welch suggested that, instead of the one term glomerulo-nephritis, the form of disease characterized by an accumulation of cells between the glomerulus and Bowman's capsule be designated desquamative glomerulitis, and that characterized by accumulation of cells or other changes in the interior of the capillaries be called intracapillary glomerulitis; though the question as to whether all these changes are inflammatory is still unsettled.

DR. HENRY F. FORMAD, of Philadelphia, said that in 1881 he had made a series of experiments on rabbits somewhat similar to Dr. Welch's. The changes in the glomeruli, however, were not so carefully noted, but there were cellular formations in the capsules. Still, notwithstanding the use of cantharidin, beyond hyperæmia the changes were remarkably slight. There is a condition of the kidney in man where there is albumen, the appearance of casts and fatty degeneration of the epithelium with atrophy, but with remarkably limited effect in the kidney. It is very common, and may be described as a primary metamorphosis.

DR. HOSMER JOHNSON, of Chicago, agreed that there are many cases indicating grave kidney disease, where the post-mortem does not seem to show sufficient changes in the kidney to account for the disease. He thought Dr. Welch's explanation probably satisfactory.

DR. FRANCIS DELAFIELD, of New York, said that he had never examined cases of nephritis except in man. He thought it a pity that the condition should be spoken of as a special form of glomerulo-nephritis, as changes in the glomeruli are so common in all forms of Bright's disease. This is the case in the simple form, also in cases where there is swelling of the capsular epithelium. Some of these remind one of those just described by Dr. Welch, but they do not advance to the same degree. He had never seen a case where cells had been pushed out of the convoluted tubes. Again we have changes in the capillaries, thickening of their walls, and presence of cells in their vessels. This is very common. Or we may have exudation between the tufts and capsule or excessive growth of the capsular cells, compressing the tuft. This is of the greatest importance clinically, as it is a form of acute Bright's disease which is likely to continue. Even if it be checked, it will sooner or later progress; but even to this form he would not apply the term glomerulo-nephritis or glomerulitis. If there be a form where the glomeruli alone are involved, then such a term would be proper.

DR. A. JACOBI, of New York, asked, Does Dr. Welch mean to say that what he describes is the preparatory stage, and one which will recover? Cases of cantharides poisoning have been reported, resulting in general interstitial inflammation in kidneys and other organs. Was this because too much had been taken?

DR. WELCH said that two Italian observers have found that cantharides administered by the stomach does not cause nephritis, but administered hypodermatically it does. He did not mean to be understood, in using the term glomerulitis, to refer to a distinct disease of the kidney. The term is simply a convenient one to include all cases not degenerative. As to the permanency of the changes, the kind he described have nothing irremediable about them. It is a mistake to try to find out what are the starting-points in Bright's disease, as we cannot discover the relation of the changes to each other. He thought too much emphasis had been laid upon desquamation, and the presence of some swelling in the intercapsular space. The changes in the capillary walls are probably not answerable for albuminuria.

DR. WILLIAM OSLER, of Philadelphia, read a paper entitled

THE BICUSPID CONDITION OF THE SEMILUNAR VALVES.

This condition may be said to exist when two of the three valves are more or less fused. It is a well-recognized abnormality, though not of very common occurrence, and is far more frequently found affecting the aortic than the pulmonary valves. Clinically the cases where the aorta is affected are apt to die suddenly;

they will generally present the symptoms and signs of chronic aortic insufficiency, with hypertrophy of the left ventricle. With the exception of one case where it was noted in an eight months fœtus, the ages at which it has been observed have been between twenty and sixty. This is in marked contrast to those cases in which the pulmonary valves are affected, and which generally die in very early life.

The cause is generally to be traced to intrauterine life and not to the occurrence of endocarditis, but to a want of development.

DR. GEORGE STERNBERG, U. S. A., read a paper on

THE BACILLUS OF TYPHOID FEVER,

which will appear in an early number of THE MEDICAL NEWS.

DR. E. C. SEGUIN, of New York, read a paper entitled

A CLINICAL REPORT OF EIGHT CASES OF HEMIANOPSIA,

which was illustrated by specimens. He spoke of nine cases, five of which were on the right side and four on the left. Three of these he considered by themselves. These patients exhibited coincidently signs of hemiparesis. One showed a post-paralytic chorea, two had alexia or sensory aphasia, in which the patient is unable to understand writing or printing, or if he can, it is only by spelling out the words letter by letter. The majority of cases have no alexia, and there seems to be no essential connection between them. In the remaining six cases, hemianopsia was the only symptom present. In one case aphasia appeared suddenly, but this was entirely distinct from the hemianopsia. In two cases there was progressive weakness of the leg. This was *probably* from a tumor in the cerebrum. He showed by a diagram where the centre for the leg in the brain is. This being the case, a paraplegia of cerebral origin is a possible thing. One case showed neuro-retinitis on ophthalmoscopic examination after the hemianopsia had developed.

He had noted a new symptom in two cases. This was the subjective appearance of hallucinatory images in the half-field before the hemianopsia came on. This is analogous to the changes in the motor centres. There is first irritation and then destruction.

In regard to the pathology, one case was syphilitic, presenting evidence of arteritis with softening on closure of the lumen of the vessel. Two cases were non-specific; two cases had hemorrhage; in two the tissues of the cerebrum were involved; one case had hemorrhage of the cerebral artery. Embolism of the occipital artery is very frequent. In one case there were glaucoma and irregular hemianopsia during the course of the disease. After iridectomy the typical hemianopsia appeared, but he was inclined to consider that the two had no connection with each other. Ophthalmologists have noted that whether the hemianopsia be on the right or left side the point of fixation always escapes. This means that the *macula lutea* is not involved, and this in turn has an important bearing on the course of the fibres supplying the optic nerve, and seems to show that the macula is applied from both sides.

DR. H. F. FORMAD, of Philadelphia, gave a demonstration of some

PECULIARITIES OF CYANOTIC INDURATION OF THE KIDNEY.

The peculiarity is one of shape. Those who are confirmed drunkards, and die in the debauch, have what he is accustomed to call the *pig-backed* kidney. It is deep red, and is one-third to one-half its normal size; presents a sausage-like appearance; it is elongated and round, and not so hard as when the cyanotic induration is due to chronic heart disease. In his demonstration he excluded all cases where the condition could be traced to cardiac or other organic lesions, and confined himself to the condition observed in those who died in a debauch. Cyanotic induration is produced by any cause interfering with the return of blood. It is produced very easily in the kidneys, since the kidneys lie very near the vena cava, and the renal veins have no valves. When a sudden afflux of blood occurs in an organ it tends to become round, and the kidneys seem to have some erectile power. This change in shape is shown by artificial distention. In cases of heart disease the action is very much more gradual, and the changes being slow, the normal shape of the organ is preserved.

He has had very extensive opportunities for conducting post-mortems in these cases, as all cases of sudden death that occur in Philadelphia are examined by him. In 250 cases of death from pure alcoholism, the pig-backed kidney was always present; enlarged liver was observed 120 times; simple cardiac hypertrophy 90 times; cystitis 170 times; cirrhosis of the liver, with contraction, only 6 times. This last is extremely remarkable, in view of the fact that it is usually considered to be one of the most usual lesions in drunkards.

As the time far adjournment had now arrived, the following papers were read by title: *Notes of a Case of Hepatico-bronchial Fistula*, by DR. J. E. GRAHAM, of Toronto; *Pancreatic Hemorrhage as a Cause of Sudden Death*, by W. F. DRAPER, M.D., of Boston; and *Pernicious Anæmia*, by DR. A. JACOBI, of New York.

After votes of thanks to the authorities of the Army Medical Department for the use of the room, to the profession of Washington for their hospitality, and to the officers of the Association for their efficient services, the Association adjourned.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, May 5, 1886.

THE PRESIDENT, S. WEIR MITCHELL, M.D., IN THE CHAIR.

DR. J. SOLIS COHEN read a paper on

THREE CASES OF PRESSURE UPON THE RECURRENT LARYNGEAL NERVE FROM DIFFERENT CAUSES, WITH FIXATION OF THE LEFT VOCAL BAND IN THE PHONATORY POSITION.

Dr. Cohen referred to the uncertainty surrounding the central innervation of the laryngeal muscles for their antagonistic function of opening and closing the glottis. Although if both of the two doors that admit the breath of life remain closed, life becomes extinct in at most two minutes, yet if only one of them is shut the interference with respiration may be too slight to attract attention. When a vocal band stands at rest in the position normally occupied during phonation only, the

question arises whether that fixed position is due to tonic spasm of the muscles which close the glottis on that side, or whether it is the result of paralysis of the muscles which hold the glottis open. The view generally entertained and endorsed by laryngolgists is the one promulgated by Dr. Fellx Seman, of London, that organic disease of the roots or trunks of the motor nerves of the larynx is likely to become earliest and sometimes exclusively manifested in paralysis of the posterior cricoarytenoideus, the dilating muscle. The lecturer was more inclined to accord with the opposite opinion announced by Dr. Herman Krause, of Berlin, based on clinical observation, on neural analogy, and on physiological experiment. In its briefest expression this view maintains that, in analogy with neurotic manifestations in other portions of the body, organic irritation of the recurrent laryngeal nerve produces spasm of all the muscles supplied by its fibres, both those which preside over the patency of the chink of the glottis for respiratory purposes, and those which preside over the approximation of its edges for purposes of phonation, cough, and expulsion of foreign material: but that, inasmuch as the number and mass of muscle and nerve fibres preponderate in the domain for closure, the equilibrium maintained by the respiratory centre under normal conditions is overpowered, so that the spasm remains manifest in the closing phase only, despite the coexistent spasm of the weaker dilator muscle. The opinion held, then, is that the phenomenon of permanent fixation is due to the overpowering contracture or tonic spasm of constricting muscles of the larynx, and not to a paralysis of a dilating one. The atrophy of the dilating muscle is attributed to its mechanical immobily, and not to its paralytic immobility. On the other hand, those who believe in primary paralysis of the dilator muscle consider this spasm to be a secondary contracture, and not a primary one.

Aneurism of the arch of the aorta and of the left subclavian artery with fixation—spastic immobility?—of the left vocal band in the phonatory position.—Mr. X. Y. Z., æt. forty-four, formerly a corporal of artillery, and since June, 1865, a machinist, applied November 15, 1885, at the Philadelphia Polyclinic on account of great dyspnœa said to have been of but six months' duration, although shortness of breath had existed for fully five years, eventually accompanied with frequent cough, and expectoration of frothy white mucus. Coughing produced great pain within the left side of the thorax. Pains in other regions were referred to.

Dizziness in walking had been produced for some months, compelling interruptions for rest. Dizziness was nearly as bad on standing. About five years before, the voice began to undergo change. It was now weak and diphthonic, the higher pitched tone being metallically shrill and squeaky. Respiration was embarrassed spasmodically on exertion, but during rest in the sitting position was fairly quiet at a rate of from twenty to twenty-four per minute. The patient felt much better in the open air than in a room. The pulse was about 86 per minute at the right wrist and over a pulsatile, expansile tumor below the clavicle and second rib of the left side, but it was almost imperceptible and apparently irregularly intermittent at the left wrist. The pupils were equally dilated.

There was a history of inflammatory rheumatism in 1866, with subsequent histories of intermittent fever and of the primary lesion of syphilis. Appetite and digestion were reported good, with irregularly constipated habit. Emaciation was steadily progressive.

Physical exploration of the thorax revealed aneurism of the arch of the aorta and of the left subclavian artery. Laryngoscopic inspection revealed tense immobility of the left vocal band in the phonatory position—or rather, with its posterior extremity, a fraction of a line beyond the middle of the glottis, with slightly concave or semielliptic outline of the immovable vocal band (Fig. 1) representing the left half of the ellipse normally produced by the simultaneous action of the two sides in phonation (Fig. 2). The aneurism of the aorta

FIG. 1

In respiration.

FIG. 2.

In phonation.

compressing the inferior laryngeal nerve as it winds around the arch of that vessel in its recurrent course to the larynx, explained the cause of the fixed position of the vocal band. This fixed position was attributed to preponderating spasm of the group of adductor muscles rather than to paralysis of the single abductor, because of the shrillness of the voice, and the presence of an over-tense vocal band to account for that shrillness or increase of pitch; complete tension requiring contraction and not relaxation of the posterior cricoarytenoid muscle. The patient, who had passed out of his hands, died suddenly while walking in a garden on April 12th, but the manner of death is unknown, whether by spasm of the glottis or by rupture of the aneurism, probably by the latter. The physician summoned after death suspected disease of the heart.

A second patient with a similar permanent fixture of his left vocal band in the phonatory position was exhibited, his phonic tone not being shrill as in the other case, but apparently normal; as is usual in these instances, the question as to contracture or paralysis could find no answer in his voice. There was no aneurism detectable in the chest of this man; but that there may be aneurism pressing posteriorly on the recurrent nerve without physical evidences on auscultation has been proved not only by a post-mortem examination in a case of the lecturer's[1] in which such a correct diagnosis had been made by exclusion in a man with a similar laryngeal defect; but by similar post-mortem discoveries by others. In this case, however, the fixture was not attributed to aneurism, but to another source of irritation, while the inference of contracture was based upon the occasional presence of tremors and even of spasms in the right vocal band, so that at moments the complete picture of the bilateral malady is manifest for a few seconds.

Some eight or more years ago Dr. Cohen reported a

[1] Amer. Journ. Med. Sci., July, 1883, p. 89.

case of permanent bilateral involvement of this kind preceded by the unilateral lesion. This patient died a few weeks ago, and the structures implicated, muscular and nervous, are undergoing study by Prof. Osler. It seemed probable that the case presented might become a similar instance of bilateral lesion following a unilateral one.

Fixation of left vocal band in the phonatory position, with tracheal constriction from enlarged thyroid body, and occasional spasm of the mobile vocal band of the right side.—X. Y. Z., æt. forty-four, an old private of three years military service; of late years a longshoreman, accustomed to heavy work, lifting large bales of merchandise, applied to the Polyclinic with great dyspnœa and marked tracheal stridor, chiefly inspiratory; with a history of continuous difficulty of breathing preventing sleep, and frequent suffocative attacks of spasm of the glottis especially at night. About one year before, while working actively in a place much exposed to draught, he began to get very hoarse so that he could barely whisper, but he had no fever and no embarrassment in respiration. Cough and expectoration ensued. In about a month his voice began to improve and became gradually restored, but cough and expectoration continued. About August last breathing became embarrassed, became associated with wheezing, and attended with a sense of weight at the epigastrium. This embarrassment in respiration steadily augmented. Just before applying at the Polyclinic, dysphagia became added to his symptoms, and he almost choked when taking food whether solids or liquids. The great stridor made laryngoscopic inspection the first step in investigation. The left vocal band was found fixed in the phonatory position. (Fig. 3.) Both bands were congested and thickened. The right band and other laryn-

FIG. 3.

Fixation of left vocal band in phonatory position, with involution of tracheal wall of same side.

geal structures moved freely and normally in respiration and phonation, and on phonation even the supra-arytenoid cartilage of the affected side became bent inward and forward. The great stridor could not be accounted for by the encroachments upon the open glottis, for one-half was entirely normal in proportions and presented ample room for free respiration. Pressure on the trachea was, therefore, suspected, and further inspection revealed an involution of the tracheal wall on the left side and extending anteriorly. External examination of the neck revealed an indurated enlargement of the left side of the thyroid gland of the size of a walnut. The inference following was, that the left lobe of the thyroid body dipped down so as to press both upon the trachea and upon the recurrent nerve; hence the immobile condition of the left vocal band, and the tracheal stridor. Tendon reflexes were normal. There was slight bilateral relaxation of the palate which did not respond to titillation. Physical examination of the chest revealed small scattered bilateral areas of bronchial breathing most marked along the course of the primitive bronchi. These were attributed to the interruption of the normal tracheal sounds by the involution of the tube acting as a tumor or foreign body. Emphysema existed at the upper part of the left lung, most marked behind. The cardiac impulse was felt at the epigastrium. There was some insufficiency of the mitral valve. No evidence of aneurism could be elicited.

The family and personal history were negative. Nevertheless twenty grain doses of potassium iodide were given three times a day, with marked benefit from the very first; and within a few days dysphagia ceased, tracheal stridor ceased, dyspnœa disappeared except on exertion, and the thyroid gland underwent resolution until now its enlargement is hardly patent to inspection though distinctly perceptible to palpation, especially during movements of deglutition. Involution of the tracheal wall can still be made out on laryngoscopy; the left vocal band is still fixed in the middle line, but the mobility of the supra-arytenoid cartilage has apparently ceased. Within a fortnight or so it was noticed on several occasions that, under the excitement of instructions to phonate strongly or rapidly, or to make deep and rapid inspirations, the hitherto unimpaired vocal band of the right side is sometimes tremulously inobedient to the will, and that once in a while it occupies the middle line for a few seconds despite the strongest efforts at inspiration, which, in fact, increase the difficulty, and produce that characteristic stridor in inspiration which accompanies the bilateral condition under consideration. Certainly the temporary closure of the glottis is at present due to clonic spasm of the adductors of the hitherto sound side of the larynx. Whether this participation of the sound side is indicative of the encroachment of a central lesion which has hitherto been unilateral, or whether it is indicative of reflex motor disturbance from involvement of the sensory fibres of the pneumogastric of the side primarily affected, a local lesion first affecting the recurrent fibres only and subsequently the other fibres of the pneumogastric, is a question for future study.

A third instance of fixation of the left vocal band, due to another cause, recently came under notice accidentally, as indeed have several instances before.

Fixation of left vocal band in phonatory position, following left-sided pleuritic effusion with displacement of the heart—A young gentleman, nineteen years of age, was sent to the lecturer recently for inquiry as to the cause of a hoarseness of several weeks' duration. In addition to evidences of a passing laryngitis, which had produced the hoarseness, the left vocal band was fixed in the middle line as in the other cases narrated. The hoarseness had passed away, voice was nearly normal, both the vocal bands remained immobile in the median line. There was a history of left-sided pleurisy three years ago with effusion enough to push the heart to the right side. The region of the heart was rather prominent, there was slight dulness just below the upper third of the sternum, the sound of the tricuspid valve was loudest just to the right of the sternum, and the other physical signs were of negative value. The theory at present entertained, for the case had not been thoroughly studied

out, was that the displacement of the heart to the right and its probable hypertrophy had caused a strain upon the recurrent nerve by dragging the arch of the aorta forward, downward, and to the right, which had either developed a neuritis resulting in neuropathic contracture, or some adhesions of connective tissue or enlarged bronchial glands. Pressure by such swollen glands might induce such a neuritis. In either instance the physical condition of the larynx had nothing to do with the cause of the hoarseness on account of which the interior of the organ was originally inspected.

This case illustrates the fact that when one vocal band is fixed in the middle line, the condition, however serious may be the lesion which has occasioned it, may remain undetected indefinitely. It does not interfere with respiration, for half a glottis is amply sufficient for that function. It does not impair the voice, for the immobile band is in the very best position for good phonation.

Given a vocal band fixed in the middle line in consequence of irritation upon the recurrent nerve, would this be due to spasmodic contracture of the entire group of muscles, or to simple overaction of the adductor portion of that group, because the abductor has become paralyzed?

That tremor precedes spasm is seen in the second case narrated; analogically to what has been witnessed in experiments upon the recurrent nerves, as performed by Krause and others, when fibrillary tremors precede the well-known traction of the vocal band to the middle line.

The great office of the laryngeal nerves is to secure space for respiration, their auxiliary office is to provide means for phonation and cough. While it seems, *à priori*, suitable that the importance of the dilators of the glottis should have caused them to be invested with special immunity, rather than with special vulnerability, it may be argued, on the other hand, that as the main office of the motor laryngeal nerves is to maintain the patency of the glottis for breathing purposes, serious injury to those nerves would compromise the integrity of that office. The reply to this argument would be, that an injury completely destructive of the conductivity of the nerve, leaves the vocal band immobile in a position which does not interfere with the respiratory function.

The speaker then referred to a hypothetical explanation for these apparent contradictions based upon general physiological principles offered by his brother, Dr. Solomon Solis Cohen. It adopts, in a modified form, the as yet undemonstrated theory of the existence of a cortical motor centre for the larynx, and assumes that the respiratory (abductor) fibres of the recurrent nerve offer less resistance to the passage of nerve-currents than do the phonatory (adductor) fibres; an assumption made highly probable by the ascertained laws of nerve-resistance. The direct energization of a muscle of a limb, it is well known, proceeds via an anterior nerve-root from the motor cells of the gray matter of the spinal cord—which may be compared to the local battery in a telegraph line—while the impulse which liberates this energy in obedience to the will, proceeds from a centre for voluntary motion in the cerebral cortex—the line battery. It may also be set free by so-called reflex action, under the stimulus conveyed from the periphery by an afferent nerve; the peripheral impression becoming the line battery. Applying these facts and hypotheses to the larynx, the following conclusions are drawn. The local battery for laryngeal motion is the nucleus of the spinal accessory nerve in the fourth ventricle. From this proceed two sets of fibres, one, of low resistance, to the dilator muscles, another, of higher resistance, to the constrictor muscles. The ordinary dilatation of the glottis for respiration, which is accomplished by a partial contraction of the dilator muscles, is an automatic function of organic life, under the control of the respiratory centre in the medulla, and takes place with the liberation of the minimum amount of energy by the central motor cells. The respiratory impulses continuously traverse the recurrent nerve, and all other impulses become superimposed upon them. The effect of a first additional increment of nerve-force, which may be set free under psychic impulse from the cortex, is to stimulate further the dilator muscles, opening the glottis wider or to its full extent, as in forced inspiration. More intense psychic stimulation, awakening sufficient energy to overcome the resistance of the adductor fibres of the recurrent nerve, elicits in addition to the continuing action of the dilator muscles (which is necessary to complete the tension of the vocal bands posteriorly) the response of the constricting muscles, and the vocal bands are brought into position for phonation. Reflex stimulation of the centre by an afferent nerve, excites the coughing action of the constricting muscles.

If this explanation of the normal action of the vocal bands be correct, the positions they assume under pathological conditions become easily explicable.

An irritative lesion of the nerve tract, or of the centre, or such lesion of the cortex or of the (hypothetical) cortico-medullar tract as should remove psychic control from nuclear cells continuing to generate nervous force, would produce according to its degree, at one extreme, increased action of the dilating muscle (position of forced inspiration, extreme abduction), or at the other extreme, spasm of all the muscles, bringing the vocal bands into the phonatory position (complete adduction), and between these extremes would be the various manifestations of tremor, spasmodic cough, and even equilibrium (non-paralytic) in the cadaveric position.

In depressive lesions, when the nervous current is too weak to overcome the resistance of the adductor nerve fibres—as when the will fails in hysteria—or when there is partial interference with the generation or transmission of nerve-currents, as in some cases of disease or injury of the nerve tract, the constricting muscles would receive little or no influence, the dilating muscles would continue to act, and there would be presented the well-known picture of adductor paralysis, best exhibited in hysterical aphonia. In hysteria, perfect cough is still possible under reflex stimulation. In organic diseases presenting the same picture, cough should be impaired, but not absent, as organic disease of this nature is not likely to be bilateral.

Destructive lesions of tract or nucleus, if complete, cut off entirely the nervous stimulation; all the muscles fail to act; and the vocal bands are left in the cadaveric position (paralytic, complete relaxation).

This hypothesis, for the sake of simplicity, omits to take account of normal or pathological inhibition of respiratory acts, or of a possible complication offered by the unknown relations of the sympathetic system with the laryngeal function of respiration.

ONTARIO MEDICAL ASSOCIATION.

Sixth Annual Meeting, held at Toronto, June 2 and 3, 1886.

(Specially reported for THE MEDICAL NEWS.)

WEDNESDAY, JUNE 2.—FIRST DAY.

THE sixth annual meeting of this Association was convened in the public hall of the Education Department at Toronto, at 10 A.M., THE PRESIDENT, G. A. LYE, M.D., of Chatham, being in the Chair.

Over one hundred and fifty members from different parts of the Province were present, besides several guests from other Provinces and the United States. The meeting was the most successful ever held by the Association. The morning session was spent in routine business.

AFTERNOON SESSION.

RECEPTION OF GUESTS.

THE PRESIDENT expressed the pleasure it gave them to welcome their guests, among whom were several from across the border; but true medicine is a brotherhood which knows no dividing lines.

The following guests were then introduced: Dr. E. M. Moore, of Rochester, President of New York State Medical Association; Drs. Cronyn and Tremaine, of Buffalo; Dr. Manton, of Detroit; and Drs. Trenholme, Ross, and Rodgers, of Montreal.

DR. POWELL, of Toronto, moved that the President be requested to convey, by telegraph, an expression of the fraternal

GREETINGS TO THE OHIO STATE MEDICAL SOCIETY,

now in session at Akron.

THE PRESIDENT then delivered his

ANNUAL ADDRESS.

After returning thanks for the honor conferred upon him by his election to the Chair, he pointed out the advantages to be derived by the profession from such an association as this. It is a source of much pleasure and gratification that our system of medical education is already so complete and that our graduates are second to none. There is, however, abundance of time and ability to reach still higher grades, and it is a matter of deep regret that the colleges graduate in three terms, and that our anomalous medical relations with the Mother Country oblige our council to accept three years. This matter might engage the attention of the Association. It is the duty of that Association to watch well the course of medical education, to suggest improvements and to let them be known for the guidance of those in authority.

DRS. GIBSON and YONKER, of Belleville, then showed two patients suffering from

HÆMATURIA

for a prolonged period. The most thorough investigation had failed to discover the cause in either case. Treatment on general principles had been without effect.

DR. ATHERTON, of Toronto, then opened the discussion on

FRACTURES OF THE FEMUR,

the subject selected for discussion by the Committee on Surgery as a substitute for an annual report on surgery.

After dealing with the classification, etiology, diagnosis, and prognosis of the various fractures to which this bone is liable, Dr. Atherton gave a full outline of the general principles of treatment, and emphasized the following conclusions: 1. Always insist on having a good, firm mattress, to prevent sagging of any part. 2. Remove the footboard of the bedstead, so as to have no obstruction to the downward movement of the body, which is apt to take place by traction of the weight. 3. Apply the strips of plaster exactly along the lateral median line, and see that they extend as far up as the fracture, so as to relieve the strain upon the ligaments. 4. Bandage the limb from the toes up. 5. Place a cushion of folded blanket, or other suitable material, between the heel and calf, so as to avoid ulceration of the former from pressure on bed. 6. Test position of pulley, so as to insure traction on line of limb, or a little above that line. 7. When a long external splint is used, pad well above the external malleolus, so as to protect it. 8. Maintain steady traction on limb till everything is in readiness for attachment of the weight. In conclusion, he thought all cases in which existence of fracture is doubtful, should be treated as fracture.

DR. MCFARLANE, of Toronto, said he was disappointed in that the paper did not deal with the special difficulties met with in many cases, such as compound comminuted fractures, distinction between intracapsular and extracapsular fractures of neck, etc., instead of the general management of ordinary cases. He advocated the use of plaster dressings in all cases, as with them he had had almost uniform good results, with seldom over half an inch shortening. In compound fractures he left a fenestrum at seat of wound through which to wash it out frequently—as often as four or five times a day, in some cases.

DR. OLDRIGHT, of Toronto, pointed out the necessity of great care being taken to prevent tilting of the pelvis when making measurements, else the measurements will indicate apparent shortening when the pelvis is tilted toward the side of fracture, when none really exists, and the converse when the pelvis is tilted to the opposite side. He cited a case that occurred in his own practice, to illustrate the truth of this statement. Since then he has provided against such tilting of the pelvis by using a T, placing the crossbar on the anterior superior spines of the ilium.

DR. POWELL, of Toronto, pointed out that, in taking measurements, the tape should pass over the thumb-nail, and the nail then placed in the notch below the iliac spine.

DR. MOORE, of Rochester, referred to the controversy that was long waged between Sir Astley Cooper and Dupuytren, as to whether in intracapsular fracture there could be bony union. In his opinion the question has no effect on treatment, because he thought many cases of intracapsular and extracapsular fractures cannot be diagnosticated. They may appear to be intracapsular at first, but a few days later prove to be extracapsular. Their differentiation is of no moment. From the attachment of the capsular ligament to the neck of the femur there passes up to the margin of the articular surface a strong reflection from the capsular ligament, which is intimately incorporated with the periosteum. This reflected ligament is usually not torn. He cited two cases in which, death occurring within a short time

of fracture, post-mortem examination proved the truth of this statement. In neither of these cases was there scarcely appreciable shortening—not more than half an inch. If left to nature, this reflected ligament soon gives way, and marked shortening occurs. In making measurements, he does not trust to his own feeling as to the position of the nail at the iliac spine, but places an assistant with a thumb-nail in the notch below each spine, and measures from the thumb-nails. We should take advantage of the untorn condition of the reflected ligament, and put on just sufficient weight to overcome the contraction of the muscles, then the reflected ligament will hold the fragments of the bone together. The amount of weight to be attached is to be wholly governed by the sensations of the patient—only using sufficient tension to make him comfortable; more will cause spasm of the muscles, and less will not overcome their contraction; in either case the fragments will be disturbed. He pointed out that eversion is usually slight at first, but there is always some.

DR. TREMAINE, of Buffalo, thought the subject a very practical one, as so many suits for malpractice are brought, on account of deformity following fractures of this bone. He said it was scarcely fair for hospital surgeons to compare their results with those of practitioners who saw only the few likely to be met with in private practice. In the treatment of these fractures as in all others perfect coaptation is the most essential point, and for maintaining the coaptation he thought plaster dressing the best agent. It was unfortunate that it had been condemned by so widely accepted an authority as Hamilton. He strongly disapproved of the practice of frequently washing out of the wound in compound fractures. The parts require physiological rest. The wound should be thoroughly cleansed and then dressed antiseptically.

DR. CARSON, of Toronto, referred to the almost uniformly good results obtained by Syme, by the use of simple coaptation splints. He thought compression by these splints overcame contraction of the muscles better than extension.

DR. RICHARDSON, of Toronto, protested against the wholesale condemnation of plaster dressings by Hamilton. It is immaterial what is used so long as coaptation is maintained, and that may be attained in many cases by either the inclined plane or straight splint. Any plan requires the exercise of common sense. He also protested most emphatically against the assertion that uniformly good results can be obtained by any plan of treatment. These statements had been the cause of disaster to many a capable, conscientious practitioner in most unjust prosecutions.

DR. CAMPBELL, of Seaforth, then presented a report on

TWO CASES OF PLACENTA PRÆVIA, WITH REMARKS.

One was delivered at six months and the other at seven. After hemorrhage first developed the cases were closely watched, but gestation was not terminated till the loss of blood became dangerous; when tamponing of vagina was resorted to. Both women made good recoveries. Sponge tents or Barnes's bags might be used to dilate the cervix in such cases, stopping hemorrhage at the same time.

DR. TEMPLE, of Toronto, was of opinion that so soon as you are convinced of the existence of placenta prævia so soon should you terminate gestation. The dangers are too great to allow a temporizing course to be followed. He thought resort to the vaginal tampon a very unsafe method to adopt for arrest of hemorrhage, as fatal hemorrhage might occur behind the plug and into the uterus without any blood appearing externally. He had seen such cases. He could not commend sponge tents for dilatation of the cervix; they are two slow. Barnes had pointed out very clearly that we should rupture the membranes or separate the placenta from its attachment to the cervical zone. This arrested hemorrhage by pressure of the head by the first method, and by closure of the ruptured vessels by contraction of the uterus in the second. Turning was then usually unnecessary.

DR. TRENHOLME, of Montreal, said we cannot lay down hard-fast lines to be applied to all cases—each must be treated on its own merits. In city practice, we may temporize; many cases have gone on to term, a living child being born. In some, hemorrhage is so severe that gestation must be terminated at once. Turning is suitable in such cases. He advocated the use of the tampon in all cases in which there was not special urgency.

DR. CANNIFF, of Toronto, was convinced that the plug, if properly applied and maintained, is effective in arresting hemorrhage and permits of the accoucheur being absent for some time with perfect safety. He strongly urged the impropriety of interfering with gestation unless the case be urgent; the child's life should be forfeited only for gravest causes.

EVENING SESSION.

DR. GILLIES, of Seeswater, read a paper on

PNEUMONIA.

From the report of the Registrar-General of the Province he culled statistics showing the death-rate from this disease for several years. The causes were then discussed. As to the nature of the disease, he was inclined to look upon it as a specific fever rather than a local affection with symptomatic pyrexia. The treatment should be conducted on broad general principles; "generalize the disease, but individualize the patient." Some cases require sedatives; some stimulants; and others nothing. The two special sources of danger in all severe cases were from heart failure and the pyrexia. Both should be closely watched.

DR. GEIKIE, of Toronto, followed in a long address on the treatment. He advocated venesection in well-marked sthenic cases. Few such cases are seen in cities, hence the condemnation of bleeding by many authorities. Bleeding should be followed by tartar emetic in small doses as a depressant, with opium to relieve pain. Here abstinence should be practised, or very little light nourishment taken till over-action is controlled, when fuller diet with tonics should be given. In mild cases but little depressant remedies should be used, while the asthenic require stimulants from the first.

DR. SMITH, of Seaforth, used cotton-wool instead of poultices, which are apt, from being improperly made and allowed to become cold, to do injury. He opposed the use of antimony as adding to the work of an already burdened heart. He thought quinine the best agent for controlling temperature.

DR. GRAHAM, of Toronto, said that morbid anatomy gives very imperfect ideas of the diseased processes in many diseases. This is very evident in skin diseases in which the appearances before and after death usually differ so widely. He thought the best classification is into sthenic, creeping, and septic varieties. In the large majority of cases the disease is a specific fever. Some are, however, simply local inflammations with symptomatic fever. This view was as old as Laennec, who taught that in cases in which the local inflammation is small with severe constitutional disturbance, the disease is a general one. Inflammation is a vital process, and it is doubtful whether aconite, veratrum viride, etc., have any influence over its progress. Contrary to the preceding speaker, he thought stimulants useful in many cases, as they limit tissue change rather than increase it. In the treatment of all cases the state of the heart should receive special attention. The obstructed pulmonary circulation, lessened respiratory surface, lessened thoracic movement, the pyrexia, and the specific poison, all tend to weaken the heart. The pyrexia can best be controlled by quinine. In septic and creeping cases, tinctura ferri muriatis with stimulants gives best results. Blisters, though not in accordance with theory, are often of great benefit in clearing up a consolidated lung after the acute stage is past.

DR. ROSS, of Montreal, said that no subject deserves more attention as to nature, causation, treatment, etc., in this climate than pneumonia. The discussion this evening had called forth widely different views. Many cases with extensive consolidation, in which the pyrexia is mild, make good recoveries, while others, with high fever and small amount of consolidation, terminate fatally. It is in this line we are to seek to solve the question of treatment. Quinine, in antipyretic doses, has disappointed him. There is no doubt that it has done a great deal of harm. Besides being liable to be followed by evil effects of itself, it is unlikely that it has any effect on the disease; we cannot produce any artificial reduction of temperature by quinine of lasting benefit, especially if not given till the sixth or seventh day. Bleeding late in the disease may be called for when there is extensive consolidation with overloading of the right heart. In conjunction with Dr. Osler, he had resorted to venesection in such a case. The result was altogether satisfactory. He has pursued the same course with other cases since then. The effect is to give mechanical relief to an overloaded nervous system.

Dr. Clark, of Walkerton, and Dr. Carniff, of Toronto, also took part in the discussion.

DR. MCKEOUGH, of Chatham, presented a paper on

THE INFLUENCE OF MALARIA AND QUININE ON PREGNANT WOMEN,

of which the following are the conclusions:

1. Gestation affords no immunity from malaria; it rather renders the woman more susceptible. Of 228 pregnant women under his observation, 36 were affected with malaria.

2. Malarial poisoning tends to induce miscarriage. Of the 36 cases of malaria in pregnancy, 17 miscarried. These figures agree with those of various authorities. As to the cause of abortion opinions vary.

3. Quinine has no tendency to produce abortion in the large majority of cases; exceptionally it causes miscarriage just as occasionally it induces a cutaneous rash.

4. Parturition has a tendency to prolong the malarial attack, notwithstanding the administration of quinine.

DR. HOWE, of Buffalo, gave a short demonstration of cultures and methods in relation to bacteria.

(To be concluded.)

THE PHILADELPHIA NEUROLOGICAL SOCIETY.

Stated Meeting, April 26, 1886.

THE PRESIDENT, S. WEIR MITCHELL, M.D., IN THE CHAIR.

DR. H. F. FORMAD, by invitation, read a paper and presented specimens illustrating

DIFFERENT FORMS OF CEREBRAL HEMORRHAGE.

(See THE MEDICAL NEWS, June 5, page 639.)

DR. DERCUM said that Dr. Formad states that in no case can the blood find its way from the pia mater into the ventricles. That is true of the general surface of the brain, but not of the base. Profuse hemorrhage at the base may find its way into the lateral and third ventricles through the transverse fissure of the brain; of this he had seen an instance.

DR. CHARLES K. MILLS thought that perhaps the statement in regard to the first class of cases may be misleading, if he says absolutely that small hemorrhages in the fourth ventricle and in the lateral ventricle occur only from traumatism. These are of frequent occurrence, particularly in the floor of the fourth ventricle in many diseases. They probably take place at the time of death. He has seen them in cases dying in the epileptic status. They have been found in cases supposed to be hydrophobic.

The occurrence of the hemorrhage in the second class of cases opposite the point of application of the force is interesting, and he thinks is best explained by Duret in his papers on traumatisms. He attributes it to displacement of the cerebrospinal fluid with the formation of numerous vacuoles and the rupture of the bloodvessels from within outward, the largest vacuoles usually occurring opposite the seat of injury. In those cases in which the hemorrhage is in the lenticular body and works its way into the lateral ventricle, numerous ecchymoses occur in various parts of the membranes and of the brain. These occur for the same reason as when the skull is struck from the outside.

He believes that in children hemorrhages occur beneath the pia mater without any special recognizable cause. He has seen one case in which meningeal hemorrhage occurred in a newborn child, probably as a result of traumatism from the use of forceps. Where children die soon after delivery, he believes that death is sometimes due to this cause.

DR. CHARLES K. MILLS reported

A CASE OF UNILATERAL SWEATING.

The patient was an unmarried woman thirty-four years old, sent to him by Dr. Deakyne. Eighteen or nineteen years ago she began to have spasmodic attacks which seemed, from description, to be epileptic. About fourteen years ago she had a stroke of left-sided paresis. About the same time she began to perspire excessively on the side of the paresis. This unilateral sweating has continued up to the present time and is more marked

than before. The secretion on the right side is normal. There is also increased lachrymation on the left side. The saliva seems to be in about equal amount on both sides. Before the occurrence of the spasms she complained of a peculiar taste, probably metallic. She occasionally has slight attacks of dizziness, is somewhat absent-minded, and at one time had severe pain in the head. Four years ago the spasms ceased. The left side of the mouth is visibly drawn a little upward. There is slight paresis of the muscles supplied by the facial nerve. She cannot draw up the left side of the mouth volitionally as well as the right. The slight loss of power in the limbs of the left side is more particularly in the arm.

She has had no trouble with the bladder or bowels. At times the left side of the face reddens very much and remains so for some time. She has some pain on the left side. She has been chiefly treated for uterine trouble. She does not present any signs of the hysterical temperament. Against hysteria are the facts that, in the first place, she has paralysis of the muscles supplied by the facial nerve; second, she has contracture on the left side, which is sometimes present in old cases of facial paralysis; and, third, the persistence of the condition for fourteen years.

DR. EDWARD T. REICHERT thought that it is not only probable that sweat centres exist in the spinal cord, but also that there is a dominant centre in the medulla oblongata. The latter is no doubt bilateral, and while it generally acts as an individual centre, affecting in like degree sweating on both sides, the centre on one side only may be in a condition of over-excitement, as is probably the condition in the present case, thus causing unilateral sweating. The lesion must, he thinks, be above the middle of the pons in order that there may be paralysis of the face and limbs at the same time.

DR. FRANCIS DERCUM believed that the supposition of some lesion of the cortex going on slowly and leaving a sclerotic patch and followed by degeneration involving these so-called sweat centres might explain the case. As regards unilateral sweating, he observed it for four or five years in a case which subsequently terminated in apoplexy. No autopsy was made.

DR. CHARLES K. MILLS said that Dr. Reichert's remarks would indicate a possible cause for this case. It seemed to him that it might be due to a very small tumor or patch of degeneration of some kind high up in the pons. He found, in looking up the subject, one case of unilateral sweating reported in which degeneration of one of the cervical ganglia was found. He attached but little importance to this. He had recently looked up the subject of unilateral progressive facial atrophy, of which more than fifty cases have now been reported. In a majority of these there has been diminution or entire absence of sweat on the atrophic side.

THE BALTIMORE ACADEMY OF MEDICINE.

Stated Meeting, May 18, 1886.

DR. J. J. CHISOLM read a very interesting paper upon

A COMPLETE REVOLUTION IN THE AFTER-TREATMENT OF CATARACT OPERATIONS.

The method had been suggested to him by Dr. Michel, of St. Louis, whom he had seen at the last meeting of the American Medical Association. It was brought before the Section on Ophthalmology, but did not meet with their approval.

Dr. Chisolm, however, decided to make a trial of the plan suggested, and his results have been so favorable that he has now discarded entirely the old method of bandaging and incarceration of the patient in a dark room, for the new method of simply closing the eye in its natural position and retaining it so by a bit of light adhesive plaster, and allowing the patient the liberty of lighted rooms. The advantages claimed are, first, that a more uniform pressure can be obtained through the natural muscularity of the lids than by any artificial padding that might be employed; and, second, that patients who have not been shut out from the light are less sensitive to its action when the eye is sufficiently healed to permit of its exposure, than those who have been retained in darkened rooms. Moreover, it admits of a means of entertainment for the patient, for they can then have their friends read to them, a privilege denied patients treated under the old plan.

The new method recommends itself especially because it possesses, in a most limited degree, any procedure that alters, to a great extent, the normal relations of the patient. The method in detail is simply this, after the removal of a cataract, or the performance of an iridectomy, the eyes, if a cataract, the eye, if an iridectomy, is closed in its normal position, and a bit of isinglass plaster, about two and a half inches long by one inch wide, rendered flaccid by immersion in some germicide fluid, is neatly applied to the surface of the closed lids. When dried this forms a close, firm band. The patient is then allowed the full liberty of his room, and in every case thus far operated upon the results have been uniformly good.

He has treated eighteen cases (fourteen cataracts and four iridectomies) in this way, and many of them go out from the hospital into direct daylight without even as much as smoked glasses to protect them, and they complain of no photophobia or lachrymation. On the sixth day, when the plaster is removed, the eye stands the light better than it did on the tenth day under the old method. The length of time required for complete healing of the eye operated upon is on an average about two weeks, but the most of the eighteen cases could have left the hospital on the tenth day.

The following officers were then elected for the ensuing year:

President.—Dr. P. C. Williams.
Vice-President.—Dr. Alan P. Smith.
Treasurer.—Dr. G. Lane Taneyhill.
Secretary.—Dr. C. C. Bombaugh.

CORRESPONDENCE.

ERROR IN STATEMENT OF RESULTS OF BATTEY'S AND TAIT'S OPERATIONS. DR. BATTEY CORRECTED.

To the Editor of THE MEDICAL NEWS.

SIR: I am sorry that I have, inadvertently, as Dr. Battey says, stated that Dr. Battey's first case had a fatal result. That the mistake was a slip of the pen, or a mistake in dictating to my secretary, is certain, be-

cause, at page 326 of my book on *Diseases of the Ovaries* (4th edition, 1883), I say: "Dr. Battey, of Rome, Ga., successfully operated upon a patient suffering from serious and complicated symptoms. Dr. Battey was the first to publish his proceedings in the *Atlanta Medical Journal* (September, 1872), whilst I contented myself with discussing the principles only in my Hasting's essay on *Diseases of the Ovary* (published in 1873, but written in 1872)."

Dr. Battey has, in turn, done me an injustice which is probably due to a lack of recollection on his part of what took place whilst he was my guest here from July 27 till August 3, 1881, and also what took place at the meeting of the International Medical Congress in London, on August 5th, of the same year.

On the morning of August 2, 1881, I drove Dr. Battey to see a patient from whom I had removed a small ovary for obstinate and intense pain on February 11, 1872, and I brought from a distance of forty miles the patient whom he says died after the operation on August 1, 1872, in order that he might see for himself the object of this strange mistake, and of the first successful operation for removal of the uterine appendages for the treatment of bleeding myoma.

At the meeting of the International Medical Congress, on August 5th, when Dr. Battey read his paper, I distributed a list of all the cases I had done up to the 14th of July, 1881, and I enclose now a copy of that list from the same bundle as those distributed (to the number of two hundred and fifty) in the room. Dr. Battey had a copy of that list.

At the meeting I specially drew attention to Case II. on the list, because it had by error been published as a fatal case in the *British Medical Journal* for 1879, and I explained how the strange mistake had occurred—a kind of mistake which certainly no one could be accused of making intentionally. I need not say that I was surprised, therefore, when Dr. Battey's paper came to be published, a few months after, that he should not have made the correction which he knew was to be justified, and which he ought to have made. Although he had himself seen and questioned the living patient nine years after her operation, and I remember well he satisfied himself of the complete arrest of menstruation as an immediate result of the operation; his paper said: "August 1, 1872, Lawson Tait practised it at Birmingham with a fatal result." Dr. Marion Sims saw the patient at the same time, and, I think, so did Dr. Briggs, of Nashville, and Dr. Roselmyl, of Hamilton.

Finally, Dr. Battey is wholly in error when he says that my voice was not heard from September, 1872, to May, 1879, on this subject. My first utterance will be found, as I say, in my Hasting's essay, published in 1873, and delivered under seal a long time before its publication, and in my own neighborhood and elsewhere I advocated the removal of the uterine appendages for actual disease, but not for the reflex conditions advocated by Dr. Battey. Battey's operation I did not do till August 11, 1879, and now I do not do it at all. On August 2, 1881, Dr. Battey saw me operate for hydrosalpinx—I think the first case he ever saw. But between 1872 and 1878 were perilous times. The clamp in ovariotomy kept us in terror with a mortality of 25 per cent., and no advance was possible. As soon as we were freed from this we went ahead freely, and now the mortality of all our abdominal operations, hysterectomy alone excepted, has practically vanished.

Priority, a ter all, s an issue perfectly immaterial, but the mixing up of the principles advocated by Dr. Battey and those advocated by myself as belonging to the same operation, is an error against which I shall never cease to protest.

I am, etc.,

LAWSON TAIT.

BIRMINGHAM, June, 1886.

RECTAL EXPRESSION.

To the Editor of THE MEDICAL NEWS.

SIR: I see in THE MEDICAL NEWS of May 15, 1886, a note concerning my method of rectal expression. I fully realize that all the methods of protection of the perineum during the exit of the fœtal head possess disadvantages, and I do not attach very great importance to the choice of means in such cases. An experienced and observing practitioner may obtain good results by very different methods. I believe, however, that the method of rectal expression is useful in general in primiparæ, and always in cases of delivery by forceps. My own experience leads me to affirm this, and several of my colleagues are of the same opinion.

The objects of the procedure in question are: 1. To render the natural efforts regular. 2. To prevent the rupture of the perineum by a too violent effort during uterine contraction; for the method of rectal expression is peculiar, in that it should be applied in the *interval between two pains*—that is, in the period of absolute passivity on the part of the woman. The tissues are at this time relaxed, and the expression of the head may then be effected without roughness. It is true that the accoucheur in no wise augments, by this procedure, the dimensions of the vulvar opening, but the result is due to the pressure exerted upon the face from below upward, which prevents the abrupt deflection of the head. Neither to me nor to other authors who have previously advised the method does it appear doubtful that it presents marked advantages. The artificial diminution of the cephalic diameters which present at the vulvar orifice is practically the equivalent of proportionally augmenting the area of this orifice.

I agree entirely with the statement in your editorial article that art should imitate nature; but I should be greatly embarrassed to find a method which obeys this precept in the matter at present under discussion. You will agree that it is not imitating nature to retard the progress of the head through the vagino-vulvar canal; yet, nevertheless, both you and I apply and advise this general method. Indeed, nature destroys many perineums. I hope to publish shortly interesting statistics of the results of natural labor, unaided by any artificial means whatever, and I hope to show that rupture of the perineum is, in this case, of great frequency. You are possibly of opinion that nature troubles herself very little about these accidents, which, in effect, assure an easy expulsion in future labors. , I, too, would be of this opinion, were the ruptures always moderate; but they are, at times, very considerable.

Again, one must admit that if nature permits spontaneous perineal rupture, she also aids in its spontaneous repair. This is very true, and if it were not needful to take into account the complications which frequently

prevent such repair, I should most willingly leave it to nature, who has done the damage. In the Maternity Hospital, however, this plan of action would be out of place, as, indeed, it would be in city practice. I believe, however, that the method of rectal expression, preceded by a period of waiting such as I have indicated, is a procedure which should not be advised until one is satisfied there is none better. There lies the whole question. I have not pretended to teach a perfect prophylactic procedure, but I believe, after much experimental comparison, that it is, thus far, the best. Believe me, etc., A. DOLÉRIS.

PARIS, 74 RUE DE MIROMESNIL.

NEWS ITEMS.

SUIT AGAINST A HEALTH OFFICER.—A suit has been begun in the Supreme Court, by William Lockwood and Emory McClintock, rag importers of New York, against Edward B. Bartlett, Albert C. Woodruff, Henry E. Ritchie, and Health Officer William M. Smith, to recover $15,000 damages for losses sustained by the seizure of 3070 bales of rags consigned to the plaintiffs, which arrived at New York on the "Vigilant" and the "Battaglia," on May 30, 1885. The suit is a test case and is extremely important, inasmuch as if it is decided against the defendants other suits will probably be begun to secure to other importers indemnity for the losses suffered by them through the decision of Dr. Smith, that rags from foreign ports must be subjected to the patented process of so-called disinfection controlled by Messrs. Bartlett, Woodruff, and Ritchie.

PHYSICAL TRAINING IN AMERICAN COLLEGES.—The U. S. Bureau of Education has just published, under this title, an elaborate report of 183 pages, on American gymnastic methods and facilities, illustrated by plans of the gymnasiums of the various colleges and universities. The report was prepared by E. M. Hartwell, M.D., of the Johns Hopkins University.

THE PASTEUR INSTITUTE.—The Municipal Council of Paris has placed at the disposition of the Pasteur Institute 2500 metres of land.

GAMBETTA'S BRAIN.—At the last session of the French Anthropological Society MM. Mattias-Duval and Schudzinsky presented a model of the brain of Gambetta. The region of Broca was seen to be enormously developed, and presented more intricated subconvolutions than have hitherto been noted.

ANOTHER MEDICAL KNIGHT.—The honor of knighthood has been conferred on Dr. A. Douglas Maclagan, Professor of Medical Jurisprudence and of Public Health, and Emeritus Professor of Clinical Medicine at the University of Edinburgh.

A SUGGESTIVE METHOD OF AVERTING OPHTHALMIA.—The Hon. Ralph Abercrombie, in *Nature*, says:

"Three cases have come under my personal observation in which brown-skinned natives, in very different parts of the world, blacken their faces to protect them from intense light and heat." The examples he gives are those of the inhabitants of Morocco, as well as of others along the north of Africa, who blacken themselves around the eyes to avert ophthalmia from the glare of hot sand. The natives of Fiji do the same, and so do the natives of the Sikhim Hills, and it is only reasonable to suppose that a practice of such wide diffusion and such striking similarity is found protective in the places and under the conditions contemplated.

A SANITARY CONVENTION AT COLDWATER, MICHIGAN, under the auspices of the State Board of Health, will be held on Thursday and Friday, September 23 and 24, 1886.

LEAD-POISONING BY HOUSEHOLD UTENSILS.—The German Parliament has now under consideration a bill that is intended to regulate the employment of lead in the manufacture of cooking and other domestic utensils, and so to diminish the risk of poisoning by that metal. The provisions of this measure forbid the use of vessels containing more than ten per cent. of lead in their composition for the above purposes. No alloy with over one per cent. may be used in coating iron articles used in cookery. Solder may consist of lead to one-tenth of its amount, but no more. Enamels into which lead enters are treated with equal stringency. The effect of this bill, if it be passed, will be to obliterate the legal existence of pewter and of soft solder as at present made, since these alloys contain from one-half to one-fourth their weight of lead.

SAL ALEMBROTH: SIR JOSEPH LISTER'S LATEST ANTISEPTIC.—It may be news to a great many to learn that Lister has discarded the use of the spray almost entirely. He now uses sal alembroth exclusively in his wards for dressings, and it has so far given very fine results. It is a double mercurial salt formed by the sublimation of a mixture of perchloride of mercury and chloride of ammonium, and is exceedingly soluble. The salt was known to the alchemists, but has not been used in medicine in modern times. Lister prepares all his dressing now with a 1:100 solution of this, gauze cotton-wool, lint, bandages, draw sheets, and where the wound is covered by the shirt, it is rendered aseptic by dipping it in the solution and drying before the fire. To make any of these dressings, all that is necessary is to soak them in this solution and dry. It not being volatile, does not require to be kept sealed in tin cases. He also colors these dressings with aniline blue 1:10,000, the benefit to be derived from this is that wherever an alkaline discharge comes in contact with the dressing, the blue is removed and turned reddish, enabling one at once to see where the discharge has been, if the quantity was ever so small and had dried up before the dressing was removed. There is one precaution in using this dressing, and that is this: the dressing being dry and frequently handled might have some septic matter from bedclothes, hands, etc., so he always dips it in 1:2000 perchloride just before applying it. He is making a sal alembroth protective, which will be surcharged with the antiseptic, so that as a discharge comes through a dressing it will come in contact with this protective and can be kept aseptic.—*Canadian Practitioner*, May, 1886.

MISTAKES IN SCHOOL ARCHITECTURE.—The *Sanitary News* of March 27th contains an article under the above heading, from which the following notes are taken.

Members of the county boards of health, and others who have at heart the good health of the children of the State, will do well to give these suggestions their attention.

The school building should never be more than two stories and basement high. The ceiling of an ordinary schoolroom should be from thirteen to fourteen feet high. The lighting of the room should be ample, the window-space never less than one-fourth of the floor-space. Lighting from two sides should be from left and rear, but never left and right. The walls are best of some delicate tint. The old-time white wall is irritating to the eye. A hard surface which can be easily washed is to be recommended. The room should be about thirty-two feet long and about twenty-six feet wide. Forty pupils are enough for one room, and the number should never exceed fifty. The floor should be of hard, polished wood, which absorbs little, and is easily cleaned. The above proportions would give each pupil at least twenty square feet of floor space and three hundred cubic feet of air space. The ventilation should be perfect. It should be near the floor. Each pupil should be supplied with 2000 cubic feet per hour, and certainly not less than 1500. With a large number of pupils in one room, this can only be effected by some mechanical means—best by a central ventilating shaft heated by the smoke-stack and connected with the rooms by flues. Earth or dry closets should be used, thoroughly deodorized and frequently emptied.

A SIGN OF DEATH.—M. Lessenne, at a meeting of the Société Médicale d'Amiens, pointed out the following simple and trustworthy sign of death. After pricking the skin with a needle the puncture remains open, just as when a piece of leather is pricked. On the living body, even if the blood does not come to the surface, as would happen if the person were hysterical, the pin-prick closes at once, and does not leave the slightest trace.

INOCULATION FOR YELLOW FEVER.—The modern expedient for settling knotty points in science is to appoint a commission; success, it is true, has not uniformly attended this method, and the reports, if not polemical, are generally colorless. Yellow fever is the disease which is now to be investigated in this way. A few years ago, Dr. Domingos Freire announced that he had prepared a vaccine which preserved the vaccinated from yellow fever; his method of experimenting, however, did not commend itself to bacteriologists; and M. Rebourgeon, who had been trained in M. Pasteur's laboratory, was sent out to Rio de Janeiro to guide Dr. Freire into the right way. The papers since published by these two experimenters confirm the earlier claims, and M. Rebourgeon has returned to Paris to convince the sceptics; he informed the Société de Biologie at its meeting on May 22d, that, during the recent epidemic, 6000 persons had been inoculated, of whom not one suffered from the disease; and that, in seven cases where patients were inoculated while suffering from the disease, recovery took place in every instance. The Society appointed a Commission of five, including MM. Brown-Séquard and Cornil, to study the method.

In the United States, moreover, the demand for a commission has been backed by the American Medical Association.

NOTES AND QUERIES.

THE COPPER TEST FOR SUGAR—A CORRECTION.

To the Editor of THE MEDICAL NEWS.

SIR: The abstract published in your issue of June 26, p. 715, of my paper read before the Association of American Physicians, contains an error which, I fear, will give an erroneous impression unless corrected. The reporter says: "Since Dr. Tyson has ceased using copper salts in testing the urine of gouty patients for sugar, he has ceased to find evidences of it." He should have said: "Since Dr. Tyson has been aware that uric acid very frequently reduces the salts of copper, he has not found sugar in the urine of gouty patients," meaning that with proper precautions this source of error is avoided. I still find the copper test, in the shape of Fehling's solution, the most delicate and satisfactory test for sugar.

JAMES TYSON.

1560 SPRUCE STREET, June 29, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY, FOR THE WEEK ENDING JUNE 26, 1886.

BEARDSLEY, GROVE S., *Medical Inspector*.—Detached from the Navy Yard, Norfolk, and ordered to the "Brooklyn."

BRIGHT, G. A., *Surgeon*.—Detached from "Brooklyn," and ordered to Navy Yard, Norfolk.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT OF THE U. S. ARMY, FROM JUNE 22 TO JUNE 28, 1886.

MCPARLIN, THOS. A., *Colonel and Surgeon*.—Granted leave of absence for two months, with permission to apply for an extension of one month.—*S. O. 146, A. G. O.*, June 25, 1886.

MAGRUDER, D. L., *Lieutenant-Colonel and Surgeon*.—Granted leave of absence for two months, to take effect on or about July 1, 1886.—*S. O. 146, A. G. O.*, June 25, 1886.

PAGE, CHARLES, *Lieutenant-Colonel and Surgeon*.—Leave of absence extended ten days.—*S. O. 146, A. G. O.*, June 25, 1886.

BROOKE, JOHN, *Major and Surgeon*.—Ordered for duty as Post Surgeon, Fort McHenry, Baltimore, Md.—*S. O. 67, Division of the Atlantic*, June 23, 1886.

DE WITT, CALVIN, *Major and Surgeon*.—Ordered for duty in Department of Dakota—*S. O. 142, A. G. O.*, June 21, 1886.

GARDINER, JOHN DE B. W., *Captain and Assistant Surgeon*.—Ordered for duty as Post Surgeon, Newport Barracks, Newport, Ky.—*S. O. 67, Division of the Atlantic*, June 23, 1886.

GIBSON, ROBERT J., *Captain and Assistant Surgeon*.—Granted leave of absence for thirty-five days.—*S. O. 43, Division of the Pacific*, June 14, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING JUNE 26, 1886.

SAWTELLE, H. W., *Surgeon*.—To proceed to Wilmington, California, on special duty, June 22, 1886.

WHEELER, W. A., *Passed Assistant Surgeon*.—Granted leave of absence for thirty days, June 23, 1886.

WILLIAMS, L. L., *Assistant Surgeon*.—To proceed to Buffalo, New York, for temporary duty, June 24, 1886.

NORMAN, SEATON, *Assistant Surgeon*.—To proceed to Cleveland, Ohio, for temporary duty, June 26, 1886.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course, not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*